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**DEPARTMENT OF DEFENSE  
IN-HOUSE RDT&E ACTIVITIES**

AD-A138415



**30 OCTOBER 1982**

**Management Analysis Report...**

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*Department of the Air Force*

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## DEPARTMENT OF DEFENSE IN-HOUSE RDTE ACTIVITIES

**HAROLD F. DAVIDSON**

30 October 1982

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Prepared for:

US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND  
5001 Eisenhower Avenue  
Alexandria, Virginia 22333

## FOREWORD

THIS REPORT WAS PREPARED FOR THE US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND AT THE DIRECTION OF THE DEPUTY CHIEF OF STAFF FOR RESEARCH, DEVELOPMENT, AND ACQUISITION. THIS EDITION IS THE FIFTEENTH OF A SERIES THAT WAS INITIATED IN 1966.

EACH IN-HOUSE RDTE ACTIVITY OF THE DEPARTMENT OF DEFENSE IS DESCRIBED ON ONE PAGE IN THIS COMPILATION. THE DATA FOR 1982 ARE SUMMARIZED IN TABLES PRECEDING THE MAIN TEXT AND CHARTS AND TABLES ARE PROVIDED FOR EACH SERVICE SHOWING ORGANIZATIONAL RELATIONSHIPS AND COMMAND CHAIN.

ALL CURRENT DOD RDTE ACTIVITIES WHICH MEET THE REPORT REQUIREMENT OF HAVING AT LEAST 25 PER CENT OF THEIR BUDGET IN RDTE FUNDS ARE LISTED IN THE CONTENTS ALPHABETICALLY WITHIN EACH DEPARTMENT. SOME FACILITIES WHICH DO NOT MEET THE REQUIREMENT PREVIOUSLY NOTED ARE ALSO LISTED BY SPECIAL REQUEST. ORGANIZATIONAL CHANGES DURING FY 1982 APPEAR IN APPENDIX I.

DOD INSTRUCTION 7700.9, WHICH HAS BEEN THE BASIS FOR THIS REPORT SINCE ITS INCEPTION, HAS BEEN REPLACED BY A TRI-SERVICE REGULATION, AR 70-63 NAVCOMPTIST 7044.5E, AFR 80-26, DNA 7700.9A, ENTITLED DOD IN-HOUSE RDTE ANNUAL ACTIVITIES REPORT, 1 SEPTEMBER 1981. APPENDIX II CONTAINS MANY OF THE DEFINITIONS USED IN THIS REPORT AND ARE PROVIDED AS AN ADDITIONAL AID IN USE OF THE REPORT. APPENDIX III LISTS SELECTED ABBREVIATIONS AND ACRONYMS. APPENDIX IV LISTS SELECTED KEY WORDS WITH PAGE REFERENCES.

EVERY EFFORT HAS BEEN MADE TO PROVIDE ACCURATE INFORMATION, PARTICULARLY FISCAL AND PERSONNEL DATA. ALL NUMBERS AND STATEMENTS HAVE BEEN THOROUGHLY EXAMINED AND, IN ALMOST ALL CASES, REVIEWED WITH THE SUBMITTING AGENCY TO INSURE CORRECTNESS AND CLARITY.

NO MAJOR CHANGES HAVE BEEN MADE IN THIS YEAR'S REPORT VIS-A-VIS LAST YEAR'S.

IT IS DESIRED THAT THIS PUBLICATION BE GIVEN WIDESPREAD DISTRIBUTION IN THE DOD LABORATORIES AS AN INTERNAL MANAGEMENT DOCUMENT AT THE DIRECTOR AND COMMANDING OFFICER LEVEL AS WELL AS AT THE BENCH LEVEL IN ORDER TO ALLOW PERSONNEL AN OPPORTUNITY TO FAMILIARIZE THEMSELVES WITH THE FUNCTIONAL CAPABILITIES OF OTHER DOD LABORATORIES. IT IS HOPED THAT BY THIS MEANS LABORATORY SCIENTISTS AND ENGINEERS WILL BE ENCOURAGED TO COMMUNICATE WITH EACH OTHER ON COMMON PROBLEMS OF INTEREST TO THEIR SERVICE LABORATORIES AS WELL AS TO COMMUNICATE WITH LABORATORIES OF THE OTHER SERVICES.

ADDITIONAL COPIES OF THIS DOCUMENT MAY BE OBTAINED BY WRITING THE DEFENSE TECHNICAL INFORMATION CENTER, BUILDING 5, CAMERON STATION, ALEXANDRIA, VIRGINIA 22314, OR U.S. ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND, ATTENTION: DRCDE-PA-E, 5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333.

## CONTENTS

FOREWORD .....	PAGE III
CONTENTS .....	V
TABLES .....	VIII
CHARTS .....	VIII
SUMMARY: DEPARTMENT OF DEFENSE IN-HOUSE RDTE FACILITIES .....	IX
SUMMARY: DEPARTMENT OF DEFENSE IN-HOUSE R&D LABORATORIES .....	XVII

### DEPARTMENT OF THE ARMY

AEROMEDICAL RESEARCH LABORATORY .....	1
AIR DEFENSE BOARD .....	2
AIRBORNE BOARD .....	3
ARMOR AND ENGINEER BOARD .....	4
ARMY RESEARCH OFFICE .....	5
ATMOSPHERIC SCIENCES LABORATORY .....	6
AVIATION BOARD .....	7
AVIATION DEVELOPMENT TEST ACTIVITY .....	8
AVIATION ENGINEERING FLIGHT ACTIVITY .....	9
AVIATION RESEARCH & TECHNOLOGY LABORATORIES .....	10
AVIONICS R&D ACTIVITY .....	11
BALLISTIC RESEARCH LABORATORY .....	12
CHEMICAL SYSTEMS LABORATORY .....	13
COLD REGIONS R&E LABORATORY .....	14
COLD REGIONS TEST CENTER .....	15
COMBAT SURVEILLANCE & TGT ACQUISITION LABORATORY .....	16
COMMUNICATIONS & ELECTRONICS BOARD .....	17
COMMUNICATIONS-ELECTRONICS R&D CENTER .....	18
CONSTRUCTION ENGINEERING RESEARCH LABORATORY .....	19
DUGWAY PROVING GROUND .....	20
ELECTRONIC PROVING GROUND .....	21
ELECTRONIC WARFARE LABORATORY .....	22
ELECTRONICS TECHNOLOGY AND DEVICES LABORATORY .....	23
ENGINEER TOPOGRAPHIC LABORATORIES .....	24
ENGINEER WATERWAYS EXPERIMENT STATION .....	25
FIELD ARTILLERY BOARD .....	26
FIRE CONTROL & SMALL CAL WPNS SYSTEMS LABORATORY .....	27
HARRY DIAMOND LABORATORIES .....	28
HUMAN ENGINEERING LABORATORY .....	29
INFANTRY BOARD .....	30
INSTITUTE OF DENTAL RESEARCH .....	31
INSTITUTE OF SURGICAL RESEARCH .....	32
INTELLIGENCE & SECURITY BOARD .....	33
KWAJALEIN MISSILE RANGE, MARSHALL ISLANDS .....	34
LARGE CALIBER WPNS SYSTEMS LABORATORY .....	35
LETTERMAN ARMY INSTITUTE OF RESEARCH .....	36



DEPARTMENT OF THE ARMY (con't)

	<u>PAGE</u>
MATERIALS AND MECHANICS RESEARCH CENTER .....	37
MATERIEL SYSTEMS ANALYSIS ACTIVITY .....	38
MATERIEL TESTING DIRECTORATE .....	39
MEDICAL BIOENGINEERING R&D LABORATORY .....	40
MEDICAL R&D COMMAND .....	41
MEDICAL RESEARCH INSTITUTE OF CHEMICAL DEFENSE .....	42
MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES .....	43
MISSILE LABORATORY .....	44
MOBILITY EQUIPMENT R&D COMMAND .....	45
NATICK R&D LABORATORIES .....	46
NIGHT VISION & ELECTRO-OPTICS LABORATORY .....	47
RESEARCH INST FOR BEHAVIORAL & SOCIAL SCIENCES .....	48
RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE .....	49
SIGNALS WARFARE LABORATORY .....	50
TANK-AUTOMOTIVE COMMAND LABORATORIES .....	51
TROPIC TEST CENTER .....	52
WALTER REED ARMY INSTITUTE OF RESEARCH .....	53
WHITE SANDS MISSILE RANGE .....	54
YUMA PROVING GROUND .....	55

DEPARTMENT OF THE NAVY

AEROSPACE MEDICAL RESEARCH LABORATORY .....	56
AIR DEVELOPMENT CENTER .....	57
AIR PROPULSION CENTER .....	58
AIR TEST CENTER .....	59
ATLANTIC FLEET WEAPONS TRAINING FACILITY .....	60
BIODYNAMICS LABORATORY .....	61
BIOSCIENCES LABORATORY .....	62
CIVIL ENGINEERING LABORATORY .....	63
CLOTHING & TEXTILE RESEARCH FACILITY .....	64
COASTAL SYSTEMS CENTER .....	65
DAVID W. TAYLOR SHIP R&D CENTER .....	66
DENTAL RESEARCH INSTITUTE, NTC .....	67
ENVIRONMENTAL PREDICTION RESEARCH FACILITY .....	68
EXPLOSIVE ORDNANCE DISPOSAL FACILITY .....	69
HEALTH RESEARCH CENTER .....	70
MEDICAL RESEARCH INSTITUTE .....	71
MEDICAL RESEARCH UNIT NO. 2 .....	72
MEDICAL RESEARCH UNIT NO. 3 .....	73
OCEAN R&D ACTIVITY .....	74
OCEAN SYSTEMS CENTER .....	75
OFFICE OF NAVAL RESEARCH .....	76
ORDNANCE MISSILE TEST FACILITY .....	77
PACIFIC MISSILE TEST CENTER .....	78
PERSONNEL RESEARCH & DEVELOPMENT CENTER .....	79

## DEPARTMENT OF THE NAVY (con't)

	<u>PAGE</u>
RESEARCH LABORATORY .....	80
SUBMARINE MEDICAL RESEARCH LABORATORY .....	81
SURFACE WEAPONS CENTER .....	82
UNDERSEA RANGES DEPARTMENT .....	83
UNDERWATER SYSTEMS CENTER .....	84
WEAPONS CENTER .....	85
WEAPONS EVALUATION FACILITY .....	86

## DEPARTMENT OF THE AIR FORCE

AERO PROPULSION LABORATORY .....	87
AEROSPACE MEDICAL RESEARCH LABORATORY .....	88
ARMAMENT DIVISION .....	89
ARMAMENT LABORATORY .....	90
ARNOLD ENGINEERING DEVELOPMENT CENTER .....	91
AVIONICS LABORATORY .....	92
EASTERN SPACE AND MISSILE CENTER .....	93
ENGINEERING AND SERVICES CENTER/RD .....	94
FLIGHT DYNAMICS LABORATORY .....	95
FLIGHT TEST CENTER .....	96
FRANK J. SEILER RESEARCH LABORATORY .....	97
GEOPHYSICS LABORATORY .....	98
HUMAN RESOURCES LABORATORY .....	99
MATERIALS LABORATORY .....	100
OFFICE OF SCIENTIFIC RESEARCH .....	101
ROCKET PROPULSION LABORATORY .....	102
ROME AIR DEVELOPMENT CENTER .....	103
SCHOOL OF AEROSPACE MEDICINE .....	104
WEAPONS LABORATORY .....	105
WESTERN SPACE AND MISSILE CENTER .....	106
4950 TEST WING .....	107
6585TH TEST GROUP .....	108

ARMED FORCES RADIOBIOLOGY RSCH INSTITUTE .....	109
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### APPENDICES:

I. CHANGES IN ORGANIZATION OR NAME .....	110
II. DEFINITIONS .....	111
III. SELECTED STANDARD ABBREVIATIONS AND ACRONYMS .....	114
IV. KEY WORDS .....	115

## TABLES

	<u>PAGE</u>
TABLE 1. ARMY RDTE ACTIVITIES, PROGRAM AND PERSONNEL DATA .....	X
TABLE 2. ARMY RDTE FACILITIES DATA .....	XII
TABLE 3. NAVY RDTE ACTIVITIES, PROGRAM AND PERSONNEL DATA .....	XIV
TABLE 4. NAVY RDTE FACILITIES DATA .....	XV
TABLE 5. AIR FORCE RDTE ACTIVITIES, PROGRAM AND PERSONNEL DATA ...	XVI
TABLE 6. AIR FORCE RDTE FACILITIES DATA .....	XVII
TABLE 7. DOD RDTE ACTIVITIES, PROGRAM AND PERSONNEL DATA .....	XVIII
TABLE 1A. ARMY R&D LABORATORIES, PROGRAM AND PERSONNEL DATA .....	XX
TABLE 2A. ARMY R&D FACILITIES DATA .....	XXI
TABLE 3A. NAVY R&D LABORATORIES, PROGRAM AND PERSONNEL DATA .....	XXII
TABLE 4A. NAVY R&D FACILITIES DATA .....	XXIII
TABLE 5A. AIR FORCE R&D LABORATORIES PROGRAM AND PERSONNEL DATA ...	XXIV
TABLE 6A. AIR FORCE R&D FACILITIES DATA .....	XXV
TABLE 7A. DOD RDTE FACILITIES DATA .....	XXVI
TABLE 8. ARMY R&D LABORATORY ORGANIZATIONAL RELATIONSHIPS .....	XXVII
TABLE 9. NAVY R&D LABORATORY ORGANIZATIONAL RELATIONSHIPS .....	XXIX
TABLE 10. AIR FORCE R&D LABORATORY ORGANIZATIONAL RELATIONSHIPS ....	XXX

## CHARTS

ARMY LABORATORIES COMMAND CHAIN .....	XXXI
NAVY LABORATORIES COMMAND CHAIN .....	XXXII
AIR FORCE LABORATORIES COMMAND CHAIN .....	XXXIII

# SUMMARY

## DEPARTMENT OF DEFENSE IN-HOUSE RDT&E FACILITIES

### PROGRAM DATA FOR FY 1982

	(MILLIONS)
TOTAL ANNUAL PROGRAM	12137.325
TOTAL INHOUSE PROGRAM	4513.747
TOTAL RDT&E PROGRAM	7084.314
TOTAL INHOUSE RDT&E	2864.279
TOTAL ANNUAL OPERATING COST	1135.913

### PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHD	TOTAL PROFESSIONALS
MILITARY	24502	736	6390
CIVILIAN	65929	3853	29247
TOTAL	90431	4589	35637

### PHYSICAL FACILITIES (END OF FY 1982)

ACRES	6241730
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#### SPACE (THOUSANDS OF SQ FT)

LABORATORY	31283.800
ADMINISTRATIVE	10545.217
OTHER	58220.408
TOTAL	100049.425

#### COST (MILLIONS)

REAL PROPERTY	4465.282
EQUIPMENT	5091.234
TOTAL	9556.516

TABLE 1. ARMY ROTSE ACTIVITIES. PROGRAM AND PERSONNEL DATA, FY 1962

INSTALLATION	FUNDING DATA (MILLIONS \$)				PERSONNEL DATA										
	TOTAL	INHOUSE	TOTAL	ROT&E	TOTAL	INHOUSE	ROT&E	MIL	CIV	TOTAL	PND	MIL	CIV	PND	PROF
AEROMEDICAL RESEARCH LABORATORY	9,300	7,908	7,113	5,721	79	74	15	7	47	24					
AIR DEFENSE BOARD	9,306	7,499	4,739	3,962	112	85	0	0	17	14					
AIRBORNE BOARD	4,639	4,489	1,632	1,482	110	39	0	0	44	7					
ARMOR AND ENGINEER BOARD	12,067	12,367	6,641	6,641	227	97	0	1	92	23					
ARMY RESEARCH OFFICE	67,232	0,112	67,120	0,000	2	95	0	33	2	36					
ATMOSPHERIC SCIENCES LABORATORY	28,406	17,154	23,719	12,467	352	175	0	24	219	92					
AVIATION BOARD	7,581	5,953	3,943	2,965	79	36	0	2	29	10					
AVIATION DEVELOPMENT TEST ACTIVITY	18,210	18,210	9,902	9,902	126	93	0	0	25	37					
AVIATION ENGINEERING FLIGHT ACTIVITY	9,057	8,419	7,719	7,081	65	100	0	1	27	33					
AVIATION RESEARCH & TECHNOLOGY LABORATORIES	87,204	28,839	72,614	26,264	15	359	1	27	11	254					
AVIONICS R & D ACTIVITY	48,248	18,034	26,405	7,153	18	264	0	5	16	162					
BALLISTIC RESEARCH LABORATORY	71,582	51,209	58,702	45,705	25	665	1	109	11	411					
CHEMICAL SYSTEMS LABORATORY	130,260	64,447	114,842	52,929	94	871	1	60	13	538					
COLD REGIONS R&E LABORATORY	18,813	14,790	9,933	7,152	14	263	0	31	8	125					
COLD REGIONS TEST CENTER	11,486	11,486	6,186	6,186	263	22	0	1	23	10					
COMBAT SURVEILLANCE & TGT ACQUISITION LAB	39,282	5,042	19,996	3,076	14	116	0	3	14	91					
COMMUNICATIONS - ELECTRONICS BOARD	5,224	5,224	2,456	2,456	67	32	0	0	48	11					
COMMUNICATIONS - ELECTRONICS R & D CENTER	111,531	17,862	88,023	14,890	68	429	0	17	16	319					
CONSTRUCTION ENGINEERING RESEARCH LAB	18,497	11,056	8,660	4,660	9	206	1	34	8	95					
DUGHAN PROVING GROUND	47,864	38,028	40,411	31,641	143	608	2	14	21	73					
ELECTRONIC PROVING GROUND,	51,333	32,257	30,711	15,951	649	221	1	0	27	82					
ELECTRONIC WARFARE LABORATORY	241,098	34,182	66,192	24,443	63	412	0	8	6	267					
ELECTRONICS TECHNOLOGY AND DEVICES LAB	63,052	16,165	53,663	13,562	0	278	0	32	0	169					
ENGINEER TOPOGRAPHIC LABORATORIES	39,213	12,679	36,726	10,840	15	295	1	18	6	148					
ENGINEER WATERWAYS EXPERIMENT STATION	71,913	59,489	20,703	18,692	21	1348	0	82	21	550					
FIELD ARTILLERY BOARD	5,209	5,209	1,553	1,553	143	37	1	0	35	4					
FIRE CONTROL & SMALL CAL. WPNS SYSTS LAB	69,755	73,938	38,181	26,760	14	613	0	24	10	395					
HARRY DIAZOND LABORATORIES	123,960	51,603	65,216	35,086	5	1188	0	47	5	535					
HUMAN ENGINEERING LABORATORY	13,971	10,136	12,960	9,127	33	147	1	18	12	187					
INFANTRY BOARD	4,607	4,607	2,010	2,010	124	57	0	0	2	8					
INSTITUTE OF DENTAL RESEARCH	4,590	3,259	2,805	1,474	82	26	0	2	61	10					
INSTITUTE OF SURGICAL RESEARCH	8,551	8,279	4,858	4,586	152	81	16	4	58	31					
INTELLIGENCE & SECURITY BOARD	5,667	1,796	3,721	1,488	99	24	0	2	24	12					
KWAJALEIN MISSILE RANGE, MARSHALL ISLANDS	165,873	7,346	161,083	5,926	27	103	1	1	19	62					
LARGE CALIBER WEAPONS SYSTEMS LAB	201,489	125,995	125,284	64,369	27	2704	0	82	5	1894					
LETTERMAN ARMY INSTITUTE OF RESEARCH	16,667	11,365	12,494	7,213	159	108	32	14	99	49					
MATERIALS AND MECHANICS RESEARCH CENTER	43,568	23,117	37,718	19,000	17	598	1	67	11	254					
MATERIEL SYSTEMS ANALYSIS ACTIVITY	26,968	15,929	21,885	12,924	31	449	0	23	11	347					
MATERIEL TESTING DIRECTORATE	102,735	97,232	55,063	50,785	215	847	0	7	38	244					
MEDICAL BIOENGINEERING R&D LABORATORY	13,510	6,210	11,567	5,015	34	101	4	15	21	48					
MEDICAL R & D COMMAND	7,843	7,843	4,277	4,277	65	136	24	1	51	2					
MEDICAL RESEARCH INSTITUTE CHEMICAL DEFENSE	24,381	14,186	22,123	11,928	76	144	35	18	40	32					
MEDICAL RESEARCH INST OF INFECTIOUS DISEASES	26,290	18,258	18,276	11,851	318	202	45	37	104	86					
MISSILE LABORATORY	299,122	95,956	173,167	61,084	44	1185	1	78	31	681					
MOBILITY EQUIP R & D COMMAND	366,959	51,362	95,473	28,387	71	1200	1	33	65	390					
NATICK R&D LABORATORIES	66,446	47,128	44,764	30,071	104	1087	5	69	34	419					
NIGHT VISION & ELECTRO OPTICS LABORATORY	286,993	27,900	70,507	19,600	32	462	0	39	4	287					
RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI	36,699	19,107	32,139	17,653	30	378	0	168	30	274					
RSCH INSTITUTE OF ENVIRONMENTAL MEDICINE	7,295	6,283	5,646	4,634	79	99	6	18	54	61					

SIGNALS WARFARE LABORATORY  
TANK-AUTO COMMAND LABORATORIES  
TROPIC TEST CENTER  
WALTER REED ARMY INSTITUTE OF RESEARCH  
WHITE SANDS MISSILE RANGE  
YUMA PROVING GROUND

110.799	6.503	44.425	5.633	51	100	0	5	10	93
474.656	69.760	90.753	24.472	30	523	1	14	26	290
5.271	5.136	3.704	3.503	71	60	0	2	8	11
56.995	41.951	43.920	28.944	458	433	160	65	378	209
256.151	156.714	219.730	128.752	919	2736	2	54	475	1074
58.746	58.746	49.312	49.312	324	505	0	0	57	74
4154.702	1554.567	2273.650	1013.770	6464	22676	361	1016	2533	10650

TOTALS

TABLE 2. ARMY ROT&amp;E FACILITIES DATA, FY 1962

INSTALLATION	SPACE AND PROPERTY				COST (MILLIONS \$)	
	ACRES	LABORATORY	ADWYN	OTHER	REAL	EQUIPMENT
AEROMEDICAL RESEARCH LABORATORY	55	85,519	20,000	15,000	5,836	10,475
AIR DEFENSE BOARD	0	29,172	37,000	19,918	1,182	12,612
AIRBORNE BOARD	27	3,978	3,914	39,390	0,970	4,758
ARMOR AND ENGINEER BOARD	2	63,365	50,454	68,069	1,455	5,377
ARMY RESEARCH OFFICE	6	0,000	24,840	0,000	0,000	0,829
ATMOSPHERIC SCIENCES LABORATORY	15	51,541	26,663	67,650	20,213	23,003
AVIATION BOARD	0	0,000	18,601	13,599	0,000	1,756
AVIATION DEVELOPMENT TEST ACTIVITY	1196	0,000	40,374	112,463	1,404	35,397
AVIATION ENGINEERING FLIGHT ACTIVITY	19	9,200	1,000	124,800	3,850	12,682
AVIATION RESEARCH & TECHNOLOGY LABORATORIES	127	68,848	58,673	16,370	2,272	13,107
AVIONICS R & D ACTIVITY	0	52,450	13,140	19,100	0,000	7,686
BALLISTIC RESEARCH LABORATORY	1920	511,780	11,200	40,982	13,878	41,306
CHEMICAL SYSTEMS LABORATORY	1750	371,863	14,184	322,701	18,687	30,219
COLD REGIONS R&E LABORATORY	20	80,787	30,027	126,544	8,409	9,174
COLD REGIONS TEST CENTER	647155	0,000	18,205	236,033	10,336	9,283
COMBAT SURVEILLANCE & TGT ACQUISITION LAB	35	52,324	6,139	10,509	0,600	6,434
COMMUNICATIONS - ELECTRONICS BOARD	7	0,000	20,950	0,490	0,210	1,024
COMMUNICATIONS - ELECTRONICS R & D CENTER	0	90,734	38,189	0,000	0,000	22,500
CONSTRUCTION ENGINEERING RESEARCH LAB	30	56,735	34,750	20,019	6,500	5,000
DUGWAY PROVING GROUND	84091	104,875	201,133	1643,266	77,962	28,075
ELECTRONIC PROVING GROUND	67000	0,150	44,235	234,587	8,600	46,108
ELECTRONIC WARFARE LABORATORY	6	163,877	26,617	37,314	6,078	46,095
ENGINEER TECHNOLOGY AND DEVICES LAB	0	81,399	31,837	6,558	0,000	13,000
ENGINEER TOPOGRAPHIC LABORATORIES	33	90,722	7,000	13,300	6,000	11,860
ENGINEER WATERWAYS EXPERIMENT STATION	1407	1739,308	350,215	169,476	29,052	56,254
FIELD ARTILLERY BOARD	0	24,472	35,340	17,720	0,000	3,047
FIRE CONTROL & SMALL CAL. WEAPNS SYSTS LAB	6	167,247	163,974	4,576	9,305	26,060
HARRY DIAMOND LABORATORIES	2316	509,785	113,201	1216,450	52,777	46,687
HUMAN ENGINEERING LABORATORY	72	111,524	7,056	21,400	6,112	8,776
INFANTRY BOARD	1	0,000	32,203	32,805	3,000	1,025
INSTITUTE OF DENTAL RESEARCH	4	9,052	5,696	14,153	2,548	2,593
INSTITUTE OF SURGICAL RESEARCH	1	26,424	1,800	22,400	2,313	4,252
INTELLIGENCE & SECURITY BOARD	10	4,000	6,627	21,667	0,616	4,890
KHAJALEIN MISSILE RAIFGE, MARSHALL ISLANDS	1361	0,000	202,626	2185,624	237,550	230,392
LETTERMAN ARMY INSTITUTE OF RESEARCH	11	109,951	219,627	50,343	17,732	27,272
MATERIALS AND MECHANICS RESEARCH CENTER	9	223,000	50,000	60,000	42,680	10,240
MATERIEL SYSTEMS ANALYSIS ACTIVITY	48	381,778	80,261	172,648	14,885	22,055
MATERIEL TESTING DIRECTORATE	4	8,140	100,276	1,715	2,070	1,239
MEDICAL BIOENGINEERING R&D LABORATORY	22665	720,999	4,351	262,761	19,220	40,786
MEDICAL R & D COMMAND	5	45,103	27,300	34,108	3,490	3,490
MEDICAL RESEARCH INSTITUTE CHEMICAL DEFENSE	1	0,000	36,917	0,000	0,632	0,875
MEDICAL RSCH INST OF INFECTIOUS DISEASES	31	36,426	15,345	98,429	9,246	8,376
MISSILE LABORATORY	43	80,843	19,820	209,699	18,763	9,104
MOBILITY EQUIP R & D COMMAND	11000	664,000	224,000	252,000	77,123	72,703
NATICK R&D LABORATORIES	1066	488,653	326,499	209,879	58,706	47,224
NIGHT VISION & ELECTRO OPTICS LABORATORY	24	502,704	55,340	298,905	22,100	21,190
RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI	38	180,639	27,186	32,000	32,000	30,400
RSCH INSTITUTE OF ENVIRONMENTAL MEDICINE	0	39,051	5,192	11,670	0,550	0,682
	4	60,421	18,793	28,647	4,684	5,207

SIGNALS WARFARE LABORATORY  
TANK-AUTO COMMAND LABORATORIES  
TROPIC TEST CENTER  
WALTER REED ARMY INSTITUTE OF RESEARCH  
WHITE SANDS MISSILE RANGE  
YUMA PROVING GROUND

VINT HILL, VA.  
WARREN, MI.  
FT. CLAYTON, C.Z.  
WASHINGTON, D.C.  
WHITE SANDS, N.M.  
YUMA, AZ

10	3.986	29.145	6.963	3.500	5.800
11	257.152	33.284	111.777	39.600	117.000
2626	18.000	35.925	88.556	0.874	3.406
203	383.274	58.600	0.000	10.080	20.533
1748490	1341.929	584.840	3129.091	197.701	232.441
838061	0.832	114.288	1419.408	56.485	69.863
4190042	10208.862	3721.622	13363.708	1162.348	1533.776

TOTALS



TABLE 3. NAVY RDT&amp;E ACTIVITIES, PROGRAM AND PERSONNEL DATA, FY 1982

INSTALLATION	FUNDING DATA (MILLIONS \$)					PERSONNEL DATA									
	TOTAL	TOTAL INHOUSE		TOTAL RDT&E	INHOUSE RDT&E	TOTAL		TOTAL		TOTAL		TOTAL		TOTAL	
		INHOUSE	RDT&E			MIL	CIV	MIL	CIV	MIL	CIV	MIL	CIV	MIL	CIV
AEROSPACE MEDICAL RESEARCH LABORATORY	4.866	4.411	4.088	3.677	113.259	38	57	13	10	15	15	24	24	24	24
AIR DEVELOPMENT CENTER	303.469	160.523	160.493	43.036	24.149	259	2088	2	34	55	1163	1163	1163	1163	1163
AIR PROPULSION CENTER	51.038	27.674	43.036	91.832	0.006	94	34	0	0	29	20	20	20	20	20
AIR TEST CENTER	210.220	148.521	117.100	0.435	3.463	34	54	5	7	7	27	27	27	27	27
ATLANTIC FLEET WEAPONS TRAINING FACILITY	32.543	4.116	3.813	2.866	17.091	16	322	0	27	8	169	169	169	169	169
BIODYNAMICS LABORATORY	4.466	3.086	2.866	1.890	1.743	1	56	0	1	1	34	34	34	34	34
CIVIL ENGINEERING LABORATORY	36.625	20.096	32.665	36.612	21.424	115	627	0	26	13	293	293	293	293	293
CLOTHING & TEXTILE RESEARCH FACILITY	3.373	3.226	1.890	72.175	0.785	77	2455	1	123	27	1157	1157	1157	1157	1157
COASTAL SYSTEMS CENTER	62.575	33.930	36.612	0.893	0.785	29	15	10	4	15	7	7	7	7	7
DAVID M. TAYLOR SHIP RESEARCH CENTER	208.001	90.362	160.858	2.091	2.091	14	32	0	8	4	35	35	35	35	35
DENTAL RESEARCH INSTITUTE	1.772	1.664	0.893	7.474	4.526	40	164	0	3	9	47	47	47	47	47
ENVIRONMENTAL PREDICTION RESEARCH FACILITY	6.218	2.475	5.734	2.251	11.895	31	62	7	10	14	24	24	24	24	24
EXPLOSIVE ORDNANCE DISPOSAL FACILITY	13.582	7.628	7.474	2.251	11.895	244	187	63	35	80	75	75	75	75	75
HEALTH RESEARCH CENTER	3.680	3.170	2.761	1.806	1.806	30	58	7	4	11	25	25	25	25	25
MEDICAL RESEARCH INSTITUTE	19.187	17.539	13.442	2.535	2.535	31	203	10	16	11	31	31	31	31	31
MEDICAL RESEARCH UNIT NO.2	2.196	2.196	1.806	40.640	15.437	14	312	1	66	11	176	176	176	176	176
MEDICAL RESEARCH UNIT NO.3	3.441	3.441	2.535	214.350	104.067	272	2454	3	173	50	1293	1293	1293	1293	1293
OCEAN SYSTEMS CENTER	41.949	16.523	40.640	423.808	17.513	34	399	3	65	31	89	89	89	89	89
OFFICE OF NAVAL RESEARCH	333.563	156.153	214.350	5.208	2.566	86	54	0	0	14	10	10	10	10	10
ORDNANCE MISSILE TEST FACILITY	492.730	19.280	423.808	198.918	139.243	906	3648	9	12	227	958	958	958	958	958
PACIFIC MISSILE TEST CENTER	8.004	4.353	5.208	18.921	10.413	33	278	0	86	11	212	212	212	212	212
PERSONNEL RESEARCH & DEVELOPMENT CENTER	24.601	13.763	243.161	2.211	146.801	143	3096	2	670	32	1520	1520	1520	1520	1520
RESEARCH LABORATORY	285.631	174.273	243.161	2.211	146.801	143	3096	2	670	32	1520	1520	1520	1520	1520
SUBMARINE MEDICAL RESEARCH LABORATORY	3.154	3.154	2.211	238.159	103.870	113	4531	0	234	34	2079	2079	2079	2079	2079
SURFACE WEAPONS CENTER	419.640	185.698	238.159	38.082	32.873	43	45	0	0	5	27	27	27	27	27
UNDERSEA RANGES DEPARTMENT	50.846	33.835	38.082	211.829	80.409	80	2675	0	92	22	1618	1618	1618	1618	1618
UNDERWATER SYSTEMS CENTER	391.988	146.755	211.829	225.517	138.356	565	3970	0	127	34	1474	1474	1474	1474	1474
WEAPONS CENTER	389.114	246.860	225.517	4.468	3.793	129	107	0	2	25	57	57	57	57	57
WEAPONS EVALUATION FACILITY	11.269	10.352	4.468												
TOTALS	3826.884	1800.742	2483.773	1175.126	5003	30646	148	1852	1112	13323	13323	13323	13323	13323	13323

TABLE 4. NAVY RDT&amp;E FACILITIES DATA, FY 1982

INSTALLATION	SPACE AND PROPERTY				COST (MILLIONS \$)	
	SPACE (THOUSANDS OF SQUARE FEET)				REAL PROPERTY	EQUIPMENT
	ACRES	LABORATORY	ADMIN	OTHER		
AEROSPACE MEDICAL RESEARCH LABORATORY	7	111.293	6.796	13.872	3.130	3.664
AIR DEVELOPMENT CENTER	840	852.000	83.000	654.000	37.900	74.800
AIR PROPULSION CENTER	68	491.202	25.640	93.800	51.810	10.221
AIR TEST CENTER	7174	886.190	420.567	4475.710	152.497	55.541
ATLANTIC FLEET WEAPONS TRAINING FACILITY	3696	0.000	14.957	182.152	13.810	115.000
BIODYNAMICS LABORATORY	1	35.702	24.452	0.000	0.260	0.279
BIOSCIENCES LABORATORY	5	77.625	8.731	34.646	1.000	5.502
CIVIL ENGINEERING LABORATORY	30	81.840	71.748	44.158	7.593	4.708
CLOTHING & TEXTILE RESEARCH FACILITY	1	9.160	10.000	3.600	0.672	0.645
COASTAL SYSTEMS CENTER	665	341.198	44.891	364.688	44.372	20.756
DAVID W. TAYLOR SHIP R&D CENTER	324	1711.000	107.000	276.000	73.759	81.244
DENTAL RESEARCH INSTITUTE	1	21.264	6.001	9.318	0.000	0.777
ENVIRONMENTAL PREDICTION RESEARCH FACILITY	0	1.362	4.858	10.594	0.000	1.370
EXPLOSIVE ORDNANCE DISPOSAL FACILITY	1172	85.397	19.880	27.460	4.891	4.201
HEALTH RESEARCH CENTER	1	19.052	7.159	0.000	0.147	0.918
MEDICAL RESEARCH INSTITUTE	4	159.933	11.720	47.210	6.536	11.987
MEDICAL RESEARCH UNIT NO.2	1	9.950	6.500	0.000	0.000	0.538
MEDICAL RESEARCH UNIT NO.3	5	53.050	8.962	61.072	1.587	0.935
OCEAN R & D ACTIVITY	5	51.002	23.881	83.069	10.048	8.502
OCEAN SYSTEMS CENTER	2751	1281.500	206.990	231.311	59.064	134.739
OFFICE OF NAVAL RESEARCH	0	0.000	81.270	2.400	0.000	0.000
ORDNANCE MISSILE TEST FACILITY	95	9.372	25.131	180.078	5.723	2.339
PACIFIC MISSILE TEST CENTER	27084	933.177	371.590	3536.966	161.262	149.643
PERSONNEL RESEARCH & DEVELOPMENT CENTER	1	6.586	9.440	0.000	0.485	4.812
RESEARCH LABORATORY	1009	2313.975	192.677	481.945	93.360	116.063
SUBMARINE MEDICAL RESEARCH LABORATORY	1	40.514	14.099	0.000	1.315	1.887
SURFACE WEAPONS CENTER	5347	1659.881	176.290	1289.820	101.730	143.062
UNDERSEA RANGES DEPARTMENT	1042	82.178	12.464	231.135	26.521	1.496
UNDERWATER SYSTEMS CENTER	381	1082.749	260.348	522.681	50.660	65.261
WEAPONS CENTER	1127122	1637.891	338.473	4194.036	233.659	113.438
WEAPONS EVALUATION FACILITY	7	23.000	34.000	95.000	9.600	1.776
TOTALS	1178940	14069.043	2629.515	17146.921	1153.391	1136.104

TABLE 5. AIR FORCE RDT&amp;E ACTIVITIES, PROGRAM AND PERSONNEL DATA, FY 1982

INSTALLATION	FUNDING DATA (MILLIONS \$)				PERSONNEL DATA									
	TOTAL	INHOUSE	TOTAL RDT&E	INHOUSE RDT&E	TOTAL	MIL	CIV	TOTAL	PHD	MIL	CIV	PHD	MIL	CIV
AERO PROPULSION LABORATORY	130.393	16.645	129.133	15.385	46	339	3	26	39	213	97			
AEROSPACE MEDICAL RESEARCH LABORATORY	28.511	13.284	20.796	12.030	136	154	26	26	63	97				
ARMAMENT DIVISION	1616.810	298.311	560.837	171.340	4676	2129	6	23	340	878				
ARMAMENT LABORATORY	74.696	31.166	65.402	29.862	165	379	4	14	98	247				
ARNOLD ENGINEERING DEVELOPMENT CENTER	201.243	33.258	197.819	29.834	173	220	3	5	86	64				
AVIONICS LABORATORY	207.539	25.529	203.275	21.765	157	604	3	39	100	405				
EASTERN SPACE & MISSILE CENTER	313.850	67.221	0.000	0.000	1009	1234	3	0	251	95				
ENGINEERING & SERVICES CNTR / RD	17.430	4.589	14.696	1.965	85	19	6	2	41	11				
FLIGHT DYNAMICS LABORATORY	137.033	32.646	132.539	28.152	186	649	1	33	132	433				
FLIGHT TEST CENTER	236.234	177.128	135.632	98.299	2885	1688	3	6	142	323				
FRANK J SEILER RESEARCH LABORATORY	1.833	1.833	1.119	1.119	23	9	12	1	19	5				
GEOPHYSICS LABORATORY	74.955	30.175	71.366	27.331	120	490	5	96	39	276				
HUMAN RESOURCES LABORATORY	36.476	13.965	31.350	10.885	129	236	10	42	71	146				
MATERIALS LABORATORY	139.307	17.057	70.385	15.535	51	312	2	62	45	242				
OFFICE OF SCIENTIFIC RESEARCH	97.749	1.395	96.354	0.000	45	98	16	24	30	38				
ROCKET PROPULSION LABORATORY	48.349	17.237	44.585	13.634	174	252	2	16	63	113				
ROME AIR DEVELOPMENT CENTER	271.439	31.513	214.735	26.805	224	1102	7	55	104	613				
SCHOOL OF AEROSPACE MEDICINE	29.570	21.887	21.182	13.499	364	264	51	37	92	105				
WEAPONS LABORATORY	215.848	75.288	197.485	56.925	648	525	40	55	396	275				
WESTERN SPACE AND MISSILE CENTER	121.994	120.994	2.600	1.800	399	451	2	2	401	451				
4950 TEST WING	98.518	93.002	79.934	74.418	925	1044	0	0	40	86				
6585TH TEST GROUP	40.394	20.827	25.061	14.194	324	278	1	4	103	100				
TOTALS	4142.171	1144.950	2316.285	664.777	12944	12476	206	568	2695	5216				

TABLE 6. AIR FORCE ROT&amp;E FACILITIES DATA, FY 1982

INSTALLATION	SPACE AND PROPERTY SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLIONS \$)	
	ACRES	LABORATORY	ADMIN	OTHER	REAL PROPERTY	EQUIPMENT
AERO PROPULSION LABORATORY	44	266.165	47.779	123.889	66.215	31.105
AEROSPACE MEDICAL RESEARCH LABORATORY	30	97.387	1.252	107.467	11.062	27.677
ARMAMENT DIVISION	463449	324.756	1143.205	10711.071	327.554	263.548
ARMAMENT LABORATORY	0	0.000	0.000	0.000	0.000	0.000
ARNOLD ENGINEERING DEVELOPMENT CENTER	39081	1120.644	182.573	1749.272	395.569	67.477
AVIONICS LABORATORY	229	229.373	9.494	405.264	39.654	86.947
EASTERN SPACE & MISSILE CENTER	17484	129.369	1213.525	4510.214	390.367	326.086
ENGINEERING & SERVICES CNTR / RD	3	12.000	14.000	0.000	1.960	2.656
FLIGHT DYNAMICS LABORATORY	92	530.356	5.100	147.128	27.553	58.750
FLIGHT TEST CENTER	210767	102.125	263.504	7664.465	287.980	152.497
FRANK J SEILER RESEARCH LABORATORY	0	19.000	3.000	0.000	1.820	2.659
GEOPHYSICS LABORATORY	335	388.689	14.566	25.883	9.863	29.870
HUMAN RESOURCES LABORATORY	5	88.180	58.123	81.180	6.521	74.949
MATERIALS LABORATORY	15	188.750	119.141	54.123	23.340	20.570
OFFICE OF SCIENTIFIC RESEARCH	0	0.000	36.688	5.128	0.000	0.000
ROCKET PROPULSION LABORATORY	68345	419.046	86.848	4.780	126.000	26.998
ROME AIR DEVELOPMENT CENTER	1517	766.945	54.080	182.271	28.449	53.434
SCHOOL OF AEROSPACE MEDICINE	74	432.994	51.447	196.102	18.095	22.630
WEAPONS LABORATORY	702	555.629	161.356	132.261	76.613	67.690
WESTERN SPACE AND MISSILE CENTER	55860	914.964	568.103	607.327	180.000	300.000
4950 TEST WING	204	0.000	132.249	780.414	13.851	748.918
6585TH TEST GROUP	6602	306.000	12.000	165.000	103.657	41.700
TOTALS	872838	6979.372	4178.033	27653.239	2136.126	2406.161

TABLE 7. DEPARTMENT OF DEFENSE RDT&E ACTIVITIES, PROGRAM AND PERSONNEL DATA, FY 1982

INSTALLATION	FUNDING DATA (MILLIONS \$)				PERSONNEL DATA						
	TOTAL	TOTAL INHOUSE	TOTAL RDT&E	INHOUSE RDT&E	TOTAL MIL	TOTAL CIV	PHD MIL	PHD CIV	PROF MIL	PROF CIV	
ARMED FORCES RADIOBIOLOGY RSCH. INSTITUTE	13.488	13.488	10.598	10.598	91	131	21	17	50	50	
TOTALS	13.488	13.488	10.598	10.598	91	131	21	17	50	50	

# SUMMARY

## DEPARTMENT OF DEFENSE IN-HOUSE R&D LABORATORIES

### PROGRAM DATA FOR FY 1982

	(MILLIONS)
TOTAL ANNUAL LABORATORY PROGRAM	7309.914
TOTAL INHOUSE PROGRAM	2731.654
TOTAL RDT&E PROGRAM	4486.109
TOTAL INHOUSE RDT&E	1846.186
TOTAL ANNUAL OPERATING COST	712.011

### PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHD	TOTAL PROFESSIONALS
MILITARY	7494	682	3338
CIVILIAN	45453	3559	23184
TOTAL	52947	4241	26522

### PHYSICAL FACILITIES (END OF FY 1982)

ACRES	1231246
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### SPACE (THOUSANDS OF SQ FT)

LABORATORY	23539.492
ADMINISTRATIVE	4422.383
OTHER	13781.901
TOTAL	41743.776

### COST (MILLIONS)

REAL PROPERTY	1743.286
EQUIPMENT	2105.393
TOTAL	3848.679

TABLE 1A. ARMY R&amp;D LABORATORIES, PROGRAM AND PERSONNEL DATA, FY 1962

INSTALLATION	FUNDING DATA (MILLIONS \$)				PERSONNEL DATA									
	TOTAL	TOTAL	INHOUSE	TOTAL	TOTAL	PROF	PROF	PROF	PROF	PROF	PROF	PROF	PROF	PROF
	INHOUSE	ROT&E	ROT&E	ROT&E	PROF	CIV	CIV	CIV	CIV	CIV	CIV	CIV	CIV	CIV
AEROMEDICAL RESEARCH LABORATORY	9,300	7,908	7,908	7,908	79	74	15	0	24	219	92	26	26	26
ATMOSPHERIC SCIENCES LABORATORY	28,406	17,154	23,713	23,713	352	175	0	0	24	219	92	26	26	26
AVIATION RESEARCH & TECHNOLOGY LABORATORIES	87,204	20,839	72,614	72,614	15	359	1	27	11	256	162	162	162	162
AVIONICS R & D ACTIVITY	48,248	18,034	26,405	26,405	18	264	0	5	16	162	162	162	162	162
BALLISTIC RESEARCH LABORATORY	71,582	51,209	58,702	58,702	45,785	25	665	1	109	11	411	411	411	411
CHEMICAL SYSTEMS LABORATORY	130,260	64,447	114,842	114,842	52,929	94	871	1	60	13	538	538	538	538
COLD REGIONS R&E LABORATORY	18,813	14,790	9,933	9,933	7,152	14	263	0	31	0	125	125	125	125
COMBAT SURVEILLANCE & TGT ACQUISITION LAB	39,882	5,042	19,996	19,996	3,076	14	116	0	3	14	91	91	91	91
COMMUNICATIONS - ELECTRONICS R & D CENTER	111,531	17,862	88,083	88,083	14,890	68	429	0	17	16	319	319	319	319
CONSTRUCTION ENGINEERING RESEARCH LAB	18,497	11,053	8,860	8,860	4,860	9	206	1	34	0	95	95	95	95
ELECTRONIC WARFARE LABORATORY	241,098	34,182	66,192	66,192	24,443	63	412	0	0	0	207	207	207	207
ELECTRONICS TECHNOLOGY AND DEVICES LAB	63,062	16,165	53,663	53,663	13,562	0	278	0	32	0	169	169	169	169
ENGINEER TOPOGRAPHIC LABORATORIES	39,213	12,679	30,726	30,726	10,840	15	295	1	18	6	148	148	148	148
ENGINEER MATERIAIS EXPERIMENT STATION	71,913	59,489	20,708	20,708	18,692	21	1343	0	82	21	558	558	558	558
FIRE CONTROL & SMALL CAL. WPNS SYS. LAB	89,755	73,938	30,181	30,181	26,760	14	613	0	24	10	395	395	395	395
HARRY DIAMOND LABORATORIES	123,968	51,603	65,216	65,216	35,086	5	1188	0	47	5	535	535	535	535
HUMAN ENGINEERING LABORATORY	13,971	10,138	12,960	12,960	9,127	33	147	1	18	12	107	107	107	107
INSTITUTE OF DENTAL RESEARCH	4,590	3,259	2,805	2,805	1,474	82	26	0	2	61	10	10	10	10
INSTITUTE OF SURGICAL RESEARCH	8,551	6,279	4,858	4,858	4,586	152	81	16	4	58	31	31	31	31
LARGE CALIBER WEAPONS SYSTEMS LAB	201,489	125,995	125,284	125,284	64,369	27	1704	0	82	5	1094	1094	1094	1094
LETTERMAN ARMY INSTITUTE OF RESEARCH	16,667	11,386	12,494	12,494	7,213	159	108	32	14	99	49	49	49	49
MATERIALS AND MECHANICS RESEARCH CENTER	43,568	23,117	37,718	37,718	19,000	17	598	1	67	11	256	256	256	256
MEDICAL BIOENGINEERING R&D LABORATORY	13,510	6,210	11,587	11,587	5,015	34	101	4	15	21	48	48	48	48
MEDICAL R & D COMMAND	7,843	7,843	4,277	4,277	4,277	65	136	24	1	51	2	2	2	2
MEDICAL RESEARCH INSTITUTE CHEMICAL DEFENSE	24,361	14,186	22,123	22,123	11,928	76	144	35	18	40	32	32	32	32
MEDICAL RSCH INST OF INFECTIOUS DISEASES	26,290	18,258	18,276	18,276	11,851	318	202	45	37	106	86	86	86	86
MISSILE LABORATORY	299,122	95,956	173,167	173,167	61,084	44	1185	1	78	31	681	681	681	681
MOBILITY EQUIP R & D COMMAND	386,959	51,362	95,473	95,473	28,387	71	1200	1	33	65	390	390	390	390
NATICK R&D LABORATORIES	66,446	47,128	44,764	44,764	30,071	104	1087	5	69	34	419	419	419	419
NIGHT VISION & ELECTRO OPTICS LABORATORY	286,993	27,900	70,507	70,507	19,600	32	462	0	39	6	207	207	207	207
RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI	36,699	19,107	32,139	32,139	17,853	30	378	0	168	30	274	274	274	274
RSCH INSTITUTE OF ENVIRONMENTAL MEDICINE	7,295	6,283	5,646	5,646	4,634	79	99	0	18	54	61	61	61	61
SIGNALS WARFARE LABORATORY	110,759	6,583	46,425	46,425	5,633	51	180	0	5	10	93	93	93	93
TANK-AUTO COMMAND LABORATORIES	474,656	48,760	98,753	98,753	24,472	30	523	1	14	26	290	290	290	290
WALTER REED ARMY INSTITUTE OF RESEARCH	56,995	41,951	43,928	43,928	28,944	458	433	160	65	378	209	209	209	209
TOTALS	3279,556	1058,098	1574,137	1574,137	669,198	2662	16350	354	1275	1509	8466	8466	8466	8466

TABLE 2A. ARMY R&amp;D FACILITIES DATA, FY 1982

INSTALLATION	SPACE AND PROPERTY SPACE (THOUSANDS OF SQUARE FEET)					COST (MILLIONS \$)	
	ACRES	LABORATORY	ADMIN	OTHER	REAL PROPERTY	EQUIPMENT	
AEROMEDICAL RESEARCH LABORATORY	55	85,519	20,000	15,000	5,836	10,475	
ATMOSPHERIC SCIENCES LABORATORY	15	51,541	26,663	67,658	20,213	23,083	
AVIATION RESEARCH & TECHNOLOGY LABORATORIES	127	88,848	58,673	16,370	2,272	13,107	
AVIONICS R & D ACTIVITY	0	52,450	13,140	19,100	0,000	7,686	
BALLISTIC RESEARCH LABORATORY	1920	511,760	11,200	40,982	13,870	41,386	
CHEMICAL SYSTEMS LABORATORY	1750	371,863	14,184	322,701	18,687	30,219	
COLD REGIONS R&E LABORATORY	20	80,787	30,027	128,544	8,489	9,174	
COMBAT SURVEILLANCE & TGT ACQUISITION LAB	35	52,324	6,139	10,589	0,680	6,436	
COMMUNICATIONS - ELECTRONICS R & D CENTER	0	90,734	38,188	0,000	0,000	22,500	
CONSTRUCTION ENGINEERING RESEARCH LAB	30	56,785	34,750	20,019	6,500	5,000	
ELECTRONIC WARFARE LABORATORY	6	163,877	26,617	37,314	6,078	46,085	
ELECTRONICS TECHNOLOGY AND DEVICES LAB	0	81,399	31,837	6,558	0,000	13,000	
ENGINEER TOPOGRAPHIC LABORATORIES	33	90,722	7,000	13,300	6,000	11,868	
ENGINEER WATERWAYS EXPERIMENT STATION	1407	1739,308	358,215	169,476	29,052	56,254	
FIRE CONTROL & SMALL CAL. WPNS SYSTS LAB	6	167,247	103,974	4,576	8,305	26,060	
HARRY DIAMOND LABORATORIES	2316	509,785	113,201	1216,450	52,777	46,687	
HUMAN ENGINEERING LABORATORY	72	111,524	7,056	21,400	8,112	8,776	
INSTITUTE OF DENTAL RESEARCH	4	9,852	5,696	14,153	2,548	2,593	
INSTITUTE OF SURGICAL RESEARCH	1	26,424	1,800	22,400	2,313	4,252	
LARGE CALIBER WEAPONS SYSTEMS LAB	11	189,951	219,627	50,343	17,732	27,272	
LETTERMAN ARMY INSTITUTE OF RESEARCH	9	223,000	50,000	60,000	42,680	18,240	
MATERIALS AND MECHANICS RESEARCH CENTER	48	361,778	88,261	172,648	14,885	22,055	
MEDICAL BIOENGINEERING R&D LABORATORY	5	45,103	27,300	34,108	3,508	3,490	
MEDICAL R & D COMMAND	1	0,000	36,917	0,000	0,632	0,875	
MEDICAL RESEARCH INSTITUTE CHEMICAL DEFENSE	31	36,426	15,345	98,429	9,246	8,376	
MEDICAL RSCH INST OF INFECTIOUS DISEASES	43	80,843	19,820	209,699	18,763	9,104	
MISSILE LABORATORY	11000	664,000	224,000	252,000	77,123	72,793	
MOBILITY EQUIP R & D COMMAND	1066	488,653	326,499	209,879	50,706	47,224	
NATICK R&D LABORATORIES	24	502,704	55,340	298,905	22,100	21,190	
NIGHT VISION & ELECTRO OPTICS LABORATORY	38	180,639	27,186	20,000	32,000	36,400	
RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI	0	29,051	5,192	11,670	0,550	0,682	
RSCH INSTITUTE OF ENVIRONMENTAL MEDICINE	4	60,421	18,793	28,647	4,084	5,207	
SIGNALS WARFARE LABORATORY	10	3,986	29,145	6,963	3,500	5,800	
TANK-AUTO COMMAND LABORATORIES	11	257,152	33,284	111,777	39,600	117,000	
WALTER REED ARMY INSTITUTE OF RESEARCH	203	363,274	58,600	0,000	10,080	20,533	
TOTALS	20301	7879,750	2143,670	3711,658	538,923	786,882	



TABLE 3A. NAVY R&D LABORATORIES, PROGRAM AND PERSONNEL DATA, FY 1962

INSTALLATION	FUNDING DATA (MILLIONS \$)				PERSONNEL DATA									
	TOTAL	INHOUSE	TOTAL	INHOUSE	TOTAL	MIL	CIV	TOTAL	PHR	MIL	CIV	PHD	PROF	PROF
	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E	RD&E
AEROSPACE MEDICAL RESEARCH LABORATORY	4.866	4.411	4.088	3.677	38	57	13	16	15	24				
AIR DEVELOPMENT CENTER	303.469	160.523	160.493	113.259	259	2088	2	34	55	1163				
BIODYNAMICS LABORATORY	4.466	4.116	3.813	3.463	34	54	5	7	7	27				
BIOSCIENCES LABORATORY	3.086	3.086	2.866	2.866	9	6	3	0	4	0				
CIVIL ENGINEERING LABORATORY	36.625	20.096	32.665	17.091	16	722	0	27	0	169				
CLOTHING & TEXTILE RESEARCH FACILITY	3.373	3.226	1.990	1.743	1	56	0	1	1	34				
COASTAL SYSTEMS CENTER	62.575	33.930	36.612	21.424	115	627	0	26	13	293				
DAVID W. TAYLOR SHIP R&D CENTER	208.001	90.362	160.058	72.175	77	2455	1	123	27	1157				
DENTAL RESEARCH INSTITUTE	1.772	1.664	0.893	0.785	29	15	10	4	15	7				
ENVIRONMENTAL PREDICTION RESEARCH FACILITY	6.218	2.475	5.734	2.091	14	32	0	0	4	35				
HEALTH RESEARCH CENTER	3.680	3.170	2.761	2.251	31	62	7	10	14	24				
MEDICAL RESEARCH INSTITUTE	19.187	17.539	13.442	11.095	244	187	63	35	80	75				
MEDICAL RESEARCH UNIT NO. 2	2.196	2.196	1.806	1.806	30	50	7	4	11	25				
MEDICAL RESEARCH UNIT NO. 3	3.441	3.441	2.535	2.535	31	203	10	16	11	31				
OCEAN R & D ACTIVITY	41.949	16.523	40.640	15.337	14	312	1	66	11	176				
OCEAN SYSTEMS CENTER	333.563	156.153	214.350	104.067	272	2454	3	173	50	1293				
PERSONNEL RESEARCH & DEVELOPMENT CENTER	24.601	13.768	18.921	10.413	33	278	0	26	11	212				
RESEARCH LABORATORY	285.691	174.273	243.161	146.001	143	3096	2	670	32	1520				
SUBMARINE MEDICAL RESEARCH LABORATORY	3.154	3.154	2.211	2.211	36	55	0	10	13	24				
SURFACE WEAPONS CENTER	419.640	185.698	238.159	103.070	113	4531	0	234	34	2079				
UNDERSEA RANGES DEPARTMENT	50.846	33.835	38.082	32.873	43	45	0	0	5	27				
UNDERWATER SYSTEMS CENTER	391.988	146.755	211.829	80.489	80	2675	0	92	22	1618				
WEAPONS CENTER	309.114	246.060	225.517	138.356	565	3970	0	127	34	1474				
TOTALS	2603.491	1327.254	1683.326	891.490	2227	23636	135	1763	477	11487				

TABLE 4A. NAVY R&amp;D FACILITIES DATA, FY 1982

INSTALLATION	SPACE AND PROPERTY SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLIONS \$)	
	ACRES	LABORATORY	ADMIN	OTHER	REAL PROPERTY	EQUIPMENT
AEROSPACE MEDICAL RESEARCH LABORATORY	7	111.293	6.796	13.872	3.138	3.664
AIR DEVELOPMENT CENTER	848	852.000	83.000	654.000	37.900	74.000
BIOYNAMICS LABORATORY	1	35.702	24.452	0.000	0.268	0.279
BIOSCIENCES LABORATORY	5	77.625	8.731	34.646	1.000	5.502
CIVIL ENGINEERING LABORATORY	30	81.948	71.748	44.158	7.593	4.768
CLOTHING & TEXTILE RESEARCH FACILITY	1	9.160	10.000	3.000	0.672	0.645
COASTAL SYSTEMS CENTER	665	341.198	44.891	364.688	44.372	28.756
DAVID W. TAYLOR SHIP R&D CENTER	324	1711.000	107.000	276.000	73.759	81.244
DENTAL RESEARCH INSTITUTE.	1	21.264	6.001	9.318	0.000	0.777
ENVIRONMENTAL PREDICTION RESEARCH FACILITY	0	1.362	4.858	10.594	0.000	1.370
HEALTH RESEARCH CENTER	1	19.052	7.159	0.000	0.147	0.918
MEDICAL RESEARCH INSTITUTE	4	159.933	11.720	47.210	6.536	11.987
MEDICAL RESEARCH UNIT NO.2	1	9.958	6.508	0.000	0.000	0.538
MEDICAL RESEARCH UNIT NO.3	5	53.050	8.962	61.072	1.567	0.935
OCEAN R & D ACTIVITY	5	51.002	23.881	83.869	10.048	0.502
OCEAN SYSTEMS CENTER	2751	1261.500	206.990	231.311	59.864	134.739
PERSONNEL RESEARCH & DEVELOPMENT CENTER	1	6.586	9.440	0.000	0.485	4.812
RESEARCH LABORATORY	1009	2313.975	192.677	481.945	93.360	116.863
SUBMARINE MEDICAL RESEARCH LABORATORY	1	40.514	14.899	0.000	1.315	1.807
SURFACE WEAPONS CENTER	5347	1659.881	176.290	1289.820	181.738	143.062
UNDERSEA RANGES DEPARTMENT	1842	82.178	12.464	231.135	26.521	1.496
UNDERWATER SYSTEMS CENTER	301	1082.749	260.348	522.881	50.668	65.211
WEAPONS CENTER	1127122	1637.891	338.473	4194.836	233.659	113.438
TOTALS	1139544	11640.705	1636.488	8553.355	753.798	797.383

TABLE 5A. AIR FORCE R&amp;D LABORATORIES, PROGRAM AND PERSONNEL DATA, FY 1962

INSTALLATION	FUNDING DATA (MILLIONS \$)				PERSONNEL DATA									
	TOTAL	TOTAL INHOUSE	TOTAL RDT&E	INHOUSE RDT&E	TOTAL MIL	TOTAL CIV	TOTAL	MIL	CIV	MIL	CIV	MIL	CIV	PROF
AERO PROPULSION LABORATORY	130.393	16.645	129.133	15.305	46	339	3	26	39	213				
AEROSPACE MEDICAL RESEARCH LABORATORY	28.511	13.224	20.796	12.030	136	154	26	26	63	97				
ARMAMENT LABORATORY	74.696	31.166	65.402	29.862	165	379	4	14	98	247				
AVIONICS LABORATORY	207.539	25.529	203.275	21.765	157	604	3	39	100	405				
ENGINEERING & SERVICES CNTR / RD	17.430	4.509	14.696	1.965	85	19	6	2	41	11				
FLIGHT DYNAMICS LABORATORY	137.033	32.046	132.539	28.152	106	649	1	33	132	433				
FRANK J SEILER RESEARCH LABORATORY	1.033	1.033	1.119	1.119	23	9	12	1	19	5				
GEOPHYSICS LABORATORY	74.955	30.175	71.366	27.331	120	490	5	96	39	276				
HUMAN RESOURCES LABORATORY	36.476	13.965	31.350	10.605	129	236	10	42	71	146				
MATERIALS LABORATORY	139.307	17.057	70.365	15.535	51	312	2	62	45	242				
ROCKET PROPULSION LABORATORY	48.349	17.237	44.585	13.634	174	252	2	16	63	113				
ROME AIR DEVELOPMENT CENTER	271.439	31.513	214.735	26.805	224	1102	7	55	104	615				
SCHOOL OF AEROSPACE MEDICINE	29.570	21.687	21.182	13.499	364	264	51	37	92	105				
WEAPONS LABORATORY	215.846	75.286	197.485	56.925	648	525	40	55	396	275				
TOTALS	1613.379	332.014	1210.040	274.692	2500	5334	172	504	1302	3101				

TABLE 6A. AIR FORCE R&D FACILITIES DATA, FY 1962

INSTALLATION	SPACE AND PROPERTY					COST (MILLIONS \$)	
	SPACE (THOUSANDS OF SQUARE FEET)					REAL PROPERTY	EQUIPMENT
	ACRES	LABORATORY	ADMIN	OTHER			
AERO PROPULSION LABORATORY	44	266.165	47.779	123.899		64.215	31.105
AEROSPACE MEDICAL RESEARCH LABORATORY	30	97.387	1.252	107.467		11.062	27.677
ARMAMENT LABORATORY	0	0.000	0.000	0.000		0.000	0.000
AVIONICS LABORATORY	229	229.373	9.494	405.264		39.654	86.947
ENGINEERING & SERVICES CNTR / RD	3	12.000	14.000	0.000		1.960	2.656
FLIGHT DYNAMICS LABORATORY	92	530.356	5.100	147.128		27.558	58.750
FRANK J SEILER RESEARCH LABORATORY	0	19.000	3.000	0.000		1.820	2.659
GEOPHYSICS LABORATORY	335	308.689	14.566	25.863		9.863	29.870
HUMAN RESOURCES LABORATORY	5	68.180	58.123	61.180		6.521	74.949
MATERIALS LABORATORY	15	188.750	119.141	54.123		23.340	28.570
ROCKET PROPULSION LABORATORY	68345	419.046	86.848	4.780		126.000	26.990
ROME AIR DEVELOPMENT CENTER	1517	764.945	54.880	182.271		28.449	53.434
SCHOOL OF AEROSPACE MEDICINE	74	432.994	51.447	196.102		18.895	22.630
WEAPONS LABORATORY	702	555.629	161.356	132.261		76.613	67.690
TOTALS	71391	3992.514	626.186	1460.348		437.150	505.935

TABLE 7A. DEPARTMENT OF DEFENSE ROT&E FACILITIES DATA, FY 1962

INSTALLATION	ACRES	SPACE AND PROPERTY SPACE (THOUSANDS OF SQUARE FEET)			COST (MILLIONS \$)	
		LABORATORY	ADMIN	OTHER	REAL PROPERTY	EQUIPMENT
ARMED FORCES RADIOBIOLOGY RSCH. INSTITUTE	10	26.523	16.047	56.540	13.415	15.193
BETHESDA, MD.	10	26.523	16.047	56.540	13.415	15.193
TOTALS						

TABLE 8 - ARMY RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

COMMAND CHAIN

INTERMEDIATE		COMMAND
AERO MEDICAL RESEARCH LABORATORY	MEDICAL R&D COMMAND	THE SURGEON GENERAL
ATMOSPHERIC SCIENCES LABORATORY	ELECTRONICS R&D CMD	MAT DEV & READ CMD
AVIATION R&T LABORATORIES	AVIATION R&D COMMAND	MAT DEV & READ CMD
AVIONICS R&D ACTIVITY	AVIATION R&D COMMAND	MAT DEV & READ CMD
BALLISTIC RESEARCH LABORATORY	ARMAMENT R&D COMMAND	MAT DEV & READ CMD
CHEMICAL SYSTEMS LABORATORY	ARMAMENT R&D COMMAND	MAT DEV & READ CMD
COLD REGIONS R&E LABORATORY	---	CHIEF OF ENGINEERS
COMBAT SURVEILLANCE & TARGET ACQUISITION LABS	ELECTRONICS R&D COMMAND	MAT DEV & READ CMD
COMMUNICATIONS-ELECTRONICS R&D CENTER	COMMUNICATIONS-ELECTRONICS COMMAND	MAT DEV & READ CMD
CONSTRUCTION ENGINEERING RSCH LABORATORY	---	CHIEF OF ENGINEERS
ELECTRONIC WARFARE LABORATORY	ELECTRONICS R&D COMMAND	MAT DEV & READ CMD
ELECTRONICS TECHNOLOGY & DEVICES LABORATORY	ELECTRONICS R&D COMMAND	MAT DEV & READ CMD
ENGINEER TOPOGRAPHIC LABORATORIES	---	CHIEF OF ENGINEERS
ENGINEER WATERWAYS EXPERIMENT STATION	---	CHIEF OF ENGINEERS
FIRE CONTROL & SMALL CALIBER WPNS SYSTEMS LAB	ARMAMENT R&D COMMAND	MAT DEV & READ CMD
HARRY DIAMOND LABORATORIES	ELECTRONICS R&D COMMAND	MAT DEV & READ CMD
HUMAN ENGINEERING LABORATORY	---	MAT DEV & READ CMD
INSTITUTE OF DENTAL RESEARCH	MEDICAL R&D COMMAND	THE SURGEON GENERAL
INSTITUTE OF SURGICAL RESEARCH	MEDICAL R&D COMMAND	THE SURGEON GENERAL
LARGE CALIBER WEAPONS SYSTEMS LABORATORY	ARMAMENT R&D COMMAND	MAT DEV & READ CMD
LETTERMAN ARMY INSTITUTE OF RESEARCH	MEDICAL R&D COMMAND	THE SURGEON GENERAL
MATERIALS AND MECHANICS RESEARCH CENTER	---	MAT DEV & READ CMD
MEDICAL BIOENGINEERING R&D LABORATORY	MEDICAL R&D COMMAND	THE SURGEON GENERAL
MEDICAL R&D COMMAND	---	THE SURGEON GENERAL
MEDICAL RESEARCH INSTITUTE OF CHEMICAL DEFENSE	MEDICAL R&D COMMAND	THE SURGEON GENERAL
MEDICAL RESEARCH INST OF INFECTIOUS DISEASES	MEDICAL R&D COMMAND	THE SURGEON GENERAL
MISSILE LABORATORY	MISSILE COMMAND	THE SURGEON GENERAL
MOBILITY EQUIPMENT R&D COMMAND	---	MAT DEV & READ CMD
NATICK R&D LABORATORIES	---	MAT DEV & READ CMD
NIGHT VISION & ELECTRO-OPTICS LABORATORY	ELECTRONICS R&D COMMAND	MAT DEV & READ CMD

TABLE 8 - ARMY RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

<u>COMMAND CHAIN</u>	
<u>INTERMEDIATE</u>	<u>COMMAND</u>
RES INST FOR BEHAVIORAL & SOCIAL SCIENCES	DEPUTY CHIEF OF STAFF FOR PERSONNEL
RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE	THE SURGEON GENERAL
SIGNALS WARFARE LABORATORY	MAT DEV & READ CMD
TANK-AUTOMOTIVE COMMAND LABORATORIES	MAT DEV & READ CMD
WALTER REED ARMY INSTITUTE OF RESEARCH	THE SURGEON GENERAL
	MEDICAL R&D COMMAND
	ELECTRONICS R&D CMD
	TANK AUTOMOTIVE COMMAND
	MEDICAL R&D COMMAND

### TABLE 9 - NAVY RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

<u>COMMAND CHAIN</u>	
<u>INTERMEDIATE</u>	<u>COMMAND</u>
AEROSPACE MEDICAL RESEARCH LABORATORY	CHIEF, BUR OF MED/SUR
AIR DEVELOPMENT CENTER	CHIEF OF NAVAL MATERIAL
BIODYNAMICS LABORATORY	CHIEF BUR OF MED/SUR
BIOSCIENCES LABORATORY	CHIEF OF NAVAL RESEARCH
CIVIL ENGINEERING LABORATORY	CHIEF OF NAVAL MATERIAL
CLOTHING AND TEXTILE RESEARCH FACILITY	CHIEF OF NAVAL MATERIAL
COASTAL SYSTEMS CENTER	CHIEF OF NAVAL MATERIAL
DAVID W. TAYLOR SHIP R&D CENTER	CHIEF OF NAVAL MATERIAL
DENTAL RESEARCH INSTITUTE	CHIEF, BUR OF MED/SUR
ENVIRONMENTAL PREDICTION RESEARCH FACILITY	CHIEF OF NAVAL MATERIAL
HEALTH RESEARCH CENTER	CHIEF, BUR OF MED/SUR
MEDICAL RESEARCH INSTITUTE	CHIEF, BUR OF MED/SUR
MEDICAL RESEARCH UNIT NO. 2	CHIEF, BUR OF MED/SUR
MEDICAL RESEARCH UNIT NO. 3	CHIEF, BUR OF MED/SUR
OCEAN R&D ACTIVITY	CHIEF OF NAVAL RESEARCH
OCEAN SYSTEMS CENTER	CHIEF OF NAVAL MATERIAL
PERSONNEL RESEARCH & DEVELOPMENT CENTER	CHIEF OF NAVAL MATERIAL
RESEARCH LABORATORY	CHIEF OF NAVAL RESEARCH
SUBMARINE MEDICAL RESEARCH LABORATORY	CHIEF, BUR OF MED/SUR
SURFACE WEAPONS CENTER	CHIEF OF NAVAL MATERIAL
UNDERSEAS RANGES DEPARTMENT	CHIEF OF NAVAL MATERIAL
UNDERWATER SYSTEMS CENTER	CHIEF OF NAVAL MATERIAL
WEAPONS CENTER	CHIEF OF NAVAL MATERIAL

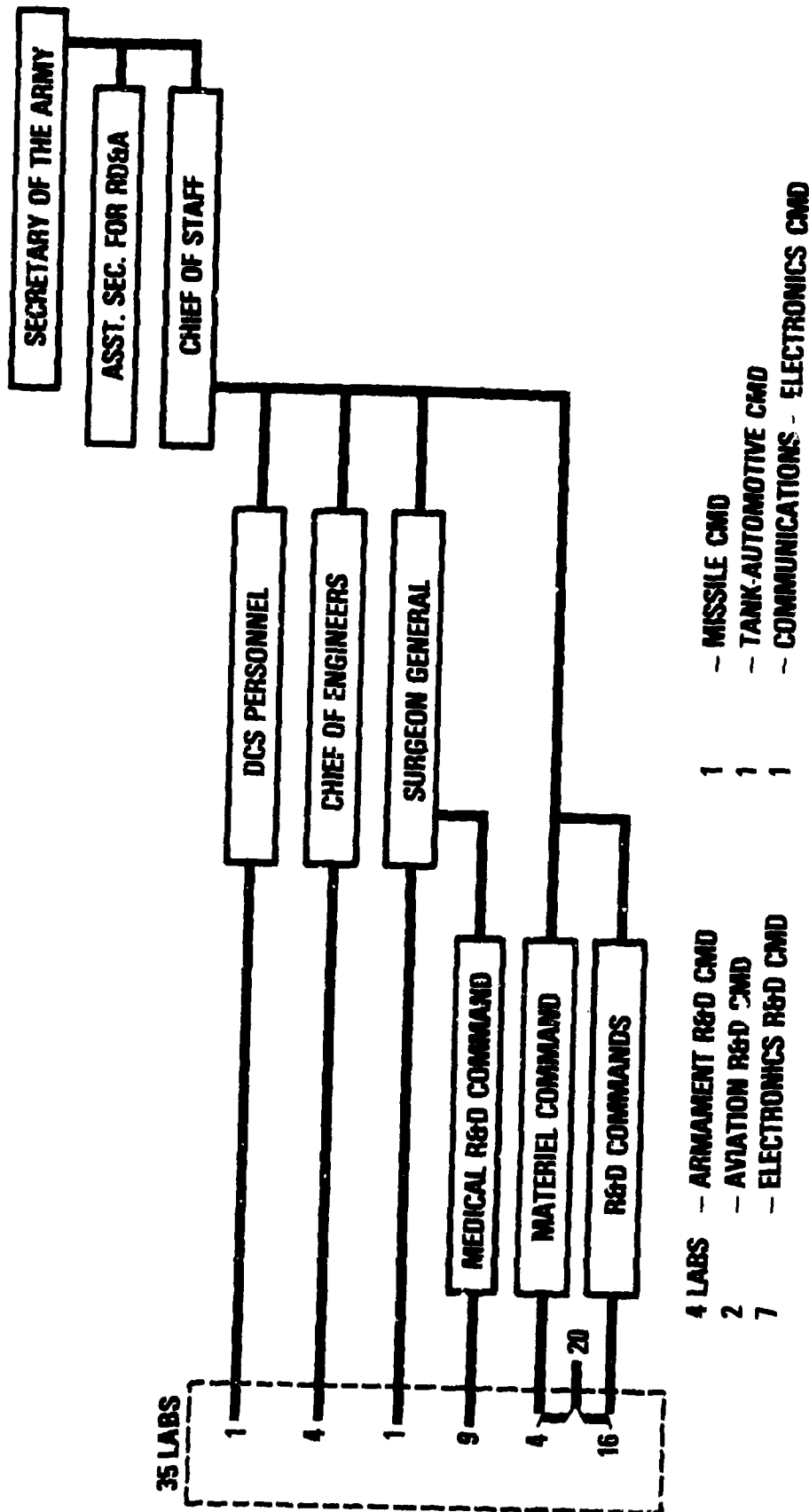


TABLE 10 AIR FORCE RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

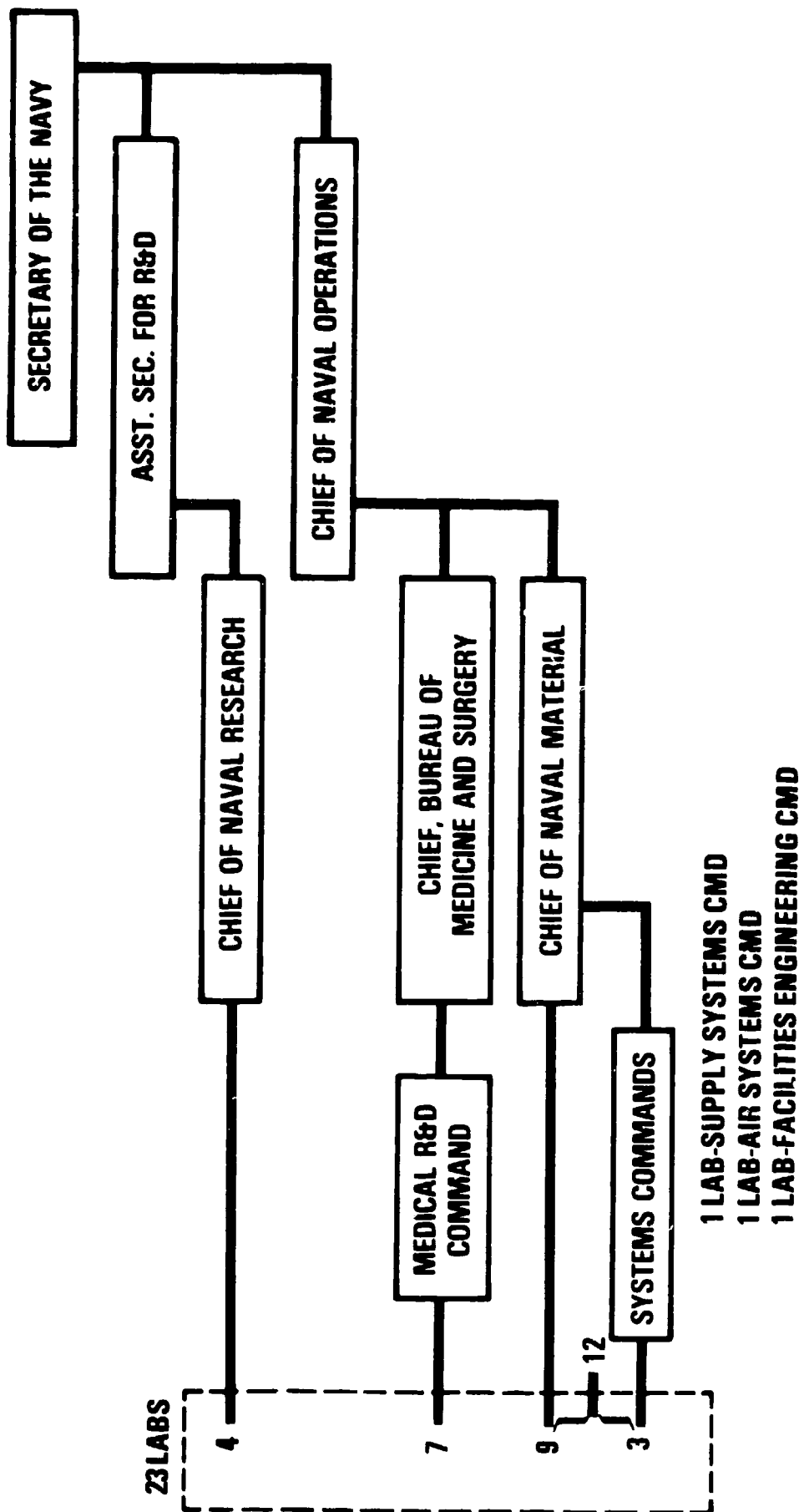
COMMAND CHAIN

<u>INTERMEDIATE</u>	<u>COMMAND</u>
AEROPULSION LABORATORY	AF SYSTEMS COMMAND
AEROSPACE MEDICAL RESEARCH LABORATORY	AF SYSTEMS COMMAND
ARMAMENT LABORATORY	AF SYSTEMS COMMAND
AVIONICS LABORATORY	AF SYSTEMS COMMAND
ENGINEERING SERVICES CENTER/RD	HQ US AIR FORCE
FLIGHT DYNAMICS LABORATORY	AF SYSTEMS COMMAND
FRANK J. SEILER RESEARCH LABORATORY	AF SYSTEMS COMMAND
GEOPHYSICS LABORATORY	AF SYSTEMS COMMAND
HUMAN RESOURCES LABORATORY	AF SYSTEMS COMMAND
MATERIALS LABORATORY	AF SYSTEMS COMMAND
ROCKET PROPULSION LABORATORY	AF SYSTEMS COMMAND
ROME AIR DEVELOPMENT CENTER	AF SYSTEMS COMMAND
SCHOOL OF AEROSPACE MEDICINE	AF SYSTEMS COMMAND
WEAPONS LABORATORY	AF SYSTEMS COMMAND
WRIGHT AERONAUTICAL LABS	AF SYSTEMS COMMAND
AEROSPACE MEDICAL DIVISION	AF SYSTEMS COMMAND
ARMAMENT DIVISION	AF SYSTEMS COMMAND
WRIGHT AERONAUTICAL LABS	AF SYSTEMS COMMAND
--	HQ US AIR FORCE
WRIGHT AERONAUTICAL LABS	AF SYSTEMS COMMAND
OFFICE OF SCIENTIFIC RES	AF SYSTEMS COMMAND
--	AF SYSTEMS COMMAND
--	AF SYSTEMS COMMAND
WRIGHT AERONAUTICAL LABS	AF SYSTEMS COMMAND
--	AF SYSTEMS COMMAND
ELECTRONIC SYSTEMS DIVISION	AF SYSTEMS COMMAND
AEROSPACE MEDICAL DIVISION	AF SYSTEMS COMMAND
--	AF SYSTEMS COMMAND

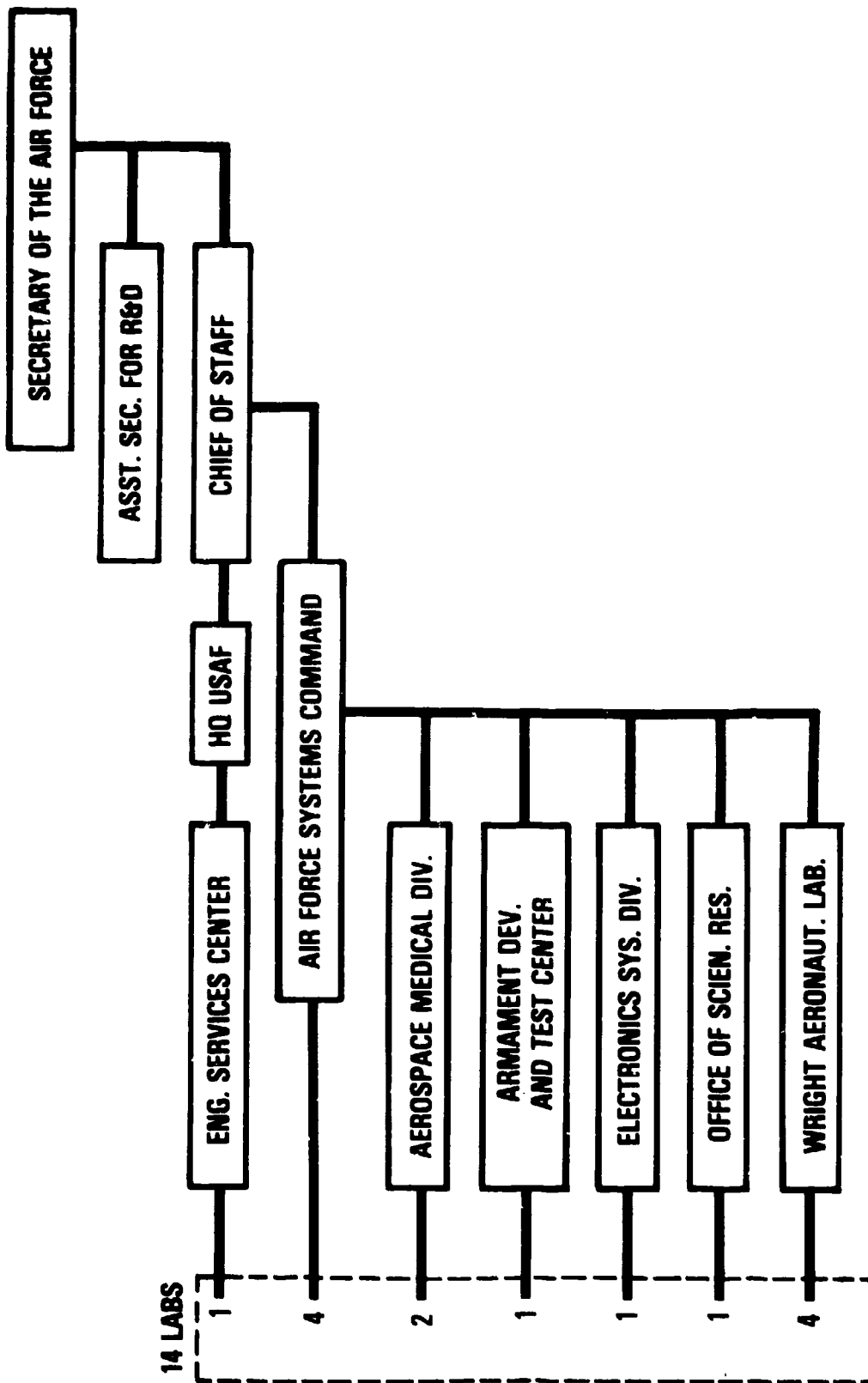
# ARMY LABORATORIES COMMAND CHAIN



# NAVY LABORATORIES COMMAND CHAIN



# AIR FORCE LABORATORIES COMMAND CHAIN



CDR. COL. STANLEY C. KNAPP

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	7.113	7.329
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.112	0.000
TOTAL OTHER	2.075	2.256
TOTAL ANNUAL LAB	9.300	9.585
TOTAL INHOUSE	7.908	8.635
TOTAL INHOUSE RDT&E	5.721	6.379
ANNUAL OPERATING COST	2.532	2.886

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	79	15	47	32
CIVILIAN	74	7	26	48
TOTAL	153	22	73	80

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
55	85.519	20.000	15.000	120.519	5.838	10.475

...MISSION

CONDUCTS LIFE SCIENCES RSCH INTO AVIATION, COMBAT VEHICLES, & COMBAT  
HUMANS SYS ENVIRONMENT & THEIR EFFECTS ON CREWMEMBERS HEALTH, SAFTY &  
PERFORMANCE. PROVIDES TO DESIGNERS, DEVELOPERS & USERS OF ARMY SYS, DATA  
BASE REQD THRU FIELD & LAB RESEARCH.

...CURRENT IMPORTANT PROGRAMS

EFFECTS OF NERVE AGENT ANTIDOTES ON THE VISUAL SYSTEM  
INDIVIDUAL AND CREW EFFICIENCY ENHANCEMENT  
AUDITORY EFFECTS OF BLAST OVERPRESSURE  
VIBRATION HAZARDS OF COMBAT AIRCRAFT AND VEHICLES  
BIOEFFECTS OF COMBAT MATERIEL AND OPERATIONS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

HUMAN-RATED VIBRATION FACILITY; HELICOPTER INFLIGHT MONITORING SYS WITH  
INSTRUMENTED RANGE; ANECHOIC AND REVERBERATION CHAMBERS; MOBILE  
ACOUSTICS LAB; EYE MOVEMENT MEASURING LAB; AIRCRAFT MODIFIED FOR  
INFLIGHT MED RSCH; VIVARIUM; DATA ACQ AND BIOTELEMETRY SYS; ELECTRON  
MICROSCOPY LAB; FIELD RSCH FAC; HYBRID ANALOGUE/DIGITAL COMPUTER SYS;  
IMPACT FAC; SCIENTIFIC & MED RSCH INFO CNTR; SPECTROGRAPHIC ANALYSIS SYS  
CARDIOPULMONARY LAB.

PRES. COL. PHILIP E. HOLMAN

TECH. ADV. MR. CHARLES E. FRENCH

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	4.739	5.644
TOTAL PROCUREMENT	0.734	0.425
TOTAL O&M	0.506	0.748
TOTAL OTHER	3.327	3.362
TOTAL ANNUAL LAB	9.306	10.179
TOTAL INHOUSE	7.499	8.262
TOTAL INHOUSE RDT&E	3.962	4.721
ANNUAL OPERATING COST	0.514	0.562

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	112	0	17	95
CIVILIAN	85	0	14	71
TOTAL	197	0	31	166

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	29.172	37.090	19.918	86.180	1.182	12.612

## ...MISSION

PLAN, CONDUCT AND REPT ON OPERATIONAL AND OTHER USER TESTS. PARTICIPATE IN OTHER TESTING AS DIR. PROV ADVICE AND GUIDN ON TEST MATTERS TO COMBAT TRAINING, AND MAT DEVELOPERS, OTHER SERVICES AND PRIVATE INDUSTRY. CONDUCT OTHER TESTS AND SELECTED SPECIFIC EVAL AS DIR BY CG TRADOC.

## ...CURRENT IMPORTANT PROGRAMS

BFV-SAD  
HPI-RAM/EMCON  
NIGHT CHAPARRAL  
SGT YORK (EPUT)  
PIVADS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

EQUIPMENT: MULTIPLE TGT TRACKING SYS PROVIDES DATA FROM AIR AND GROUND TGTS, TWO LASER TRACKING SYS PROVIDE DATA FROM COOPERATIVE TGTS; INSTR RADAR SYS THAT PROVIDES HIGH ACCURACY; ONE NIKE-HERC FIRE CON SYS USED WITH RADAR DATA RECORDER; A RANGE TIMING SYS TO PROVIDE A TIME BASE FOR ALL INSTR SYS; TWO DATA ACQ SYS ACCEPT 59 DIFFERENT SIGNALS, CCTV SYS FOR RANGE SAFETY; TECH PHOTO LAB FOR REQUIRED DATA; RICS PROVIDES NEAR REAL TIME DATA OUTPUTS. FACILITIES AT FT BLISS: BLDG 1656 HOUSES RICS; RANGE TIMING SYS; DATA REDUCTION SYS; ELECTRONICS CAL & FABRICATION LAB; MACHINE & CARPENTER SHOPS; MICROWAVE TERMINAL THAT PROVIDES DATA & CMD LINK TO RANGES; BLDG 1658 . PHOTOGRAPHIC LAB; DONA ANA, MCGREGOR, NORTH MCGREGOR RANGES FOR FIRING FORWARD AREA WEAPONS AT AIR OR GROUND TGTS. SITE MONITOR FOR ELECTRONICS TESTING OF EQUIPMNT.

PRES. COL. WILLIAM R. FOLEY

ENGR. ADV. MR. GEORGE G. GORE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT & EST)
TOTAL RDT&E	1.632	1.955
TOTAL PROCUREMENT	0.213	0.742
TOTAL O&M	0.381	1.808
TOTAL OTHER	2.413	2.451
TOTAL ANNUAL LAB	4.639	6.956
TOTAL INHOUSE	4.489	6.728
TOTAL INHOUSE RDT&E	1.482	1.727
ANNUAL OPERATING COST	1.479	1.456

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	110	0	44	66
CIVILIAN	39	0	7	32
TOTAL	149	0	51	98

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
27	3.978	3.914	39.390	47.282	0.970	4.750

...MISSION

THE MISSION OF THE ABN BD IS TO PLAN, CONDUCT AND REPORT ON OT I & II, FDTE AND OTHER USER TYPE TESTS OF AIRBORNE ITEMS; PARTICIPATE IN DT I, II & III AS DIRECTED; PROVIDE ADVICE AND GUIDANCE ON TEST AND EVALUATION MATTERS. CONDUCT SPECIAL TESTS & EVALUATIONS AS DIRECTED.

...CURRENT IMPORTANT PROGRAMS

LOW ALTITUDE PARACHUTE EXTRACTION SYSTEM  
STANDARD AIRDROP OF SELECTED ITEMS OF EQUIPMENT  
EXTERNAL AIR TRANSPORTABILITY  
STAGED PARACHUTE SYS FOR PERSONNEL & ACCOMPANYING BUNDLES  
LIGHTER THAN AIR CUSHIONED VEHICLE, 30 TON PAYLOAD

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FACILITIES INCLUDE: MAIN OFC BLDG, ABN HANGAR, INSTRUMENTATION/DESIGN INTERFACING SECTION, COMBINED SHOP & ADP FACILITY. MAJOR EQUIPMENT INCLUDES: LIGHTWEIGHT OPTICAL TRACKING SYSTEM, INSTRUMENTATION VAN, 25 TON CRANE, 2 20-TON MOBILE CRANES, 5-TON WRECKER, 40,000 LB ACFT LOADER, THREE T-28 ACFT, ONE UH-1H HELICOPTER, VARIOUS TYPES OF STANDARD PARACHUTES, NINE GASOLINE GENERATORS, DIGITAL THEODOLITES, ELECTRONIC DIAGNOSTIC EQUIPMENT, VOLTMETERS, AMMETERS, SPECTRUM ANALYZERS, SOUND & VIBRATION ANALYZERS, TIME MARK GENERATORS, OSCILLOSCOPES, MULTIMETERS, RANDOM NOISE GENERATORS, POWER SUPPLIES, Q METERS, ATTENUATORS, GRAPHIC LEVEL RECORDERS, 16MM CAMERAS, FILM ANALYZERS, PORTABLE VIDEO EQUIPMENT, VAN METER, ANALOG TAPE RECORDER, FREQUENCY COUNTERS, SOUND LEVEL CALIBRATORS, METER CALIBRATORS, & MEGOHMMETER.

PRES. COL. J. LYNN FLEMING

SCI. ADV. MR. WARREN W. WELLS

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	6.641	6.877
TOTAL PROCUREMENT	0.442	3.594
TOTAL O&M	0.090	0.466
TOTAL OTHER	4.894	5.001
TOTAL ANNUAL LAB	12.067	15.938
 TOTAL INHOUSE	 12.067	 15.938
TOTAL INHOUSE RDT&E	6.641	6.877
ANNUAL OPERATING COST	0.790	0.858

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	227	0	92	135
CIVILIAN	97	1	23	74
TOTAL	324	1	115	209

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
2	63.365	50.454	88.069	201.888	1.455	5.377

## ...MISSION

PLAN CONDUCT & REPORT: OTI,II,III,FDTE,CEP,PIP & OTHER USER TESTS OF AR/ENGR EQ. PARTICIPATE IN SPEC STUDY OF CML EQ. PROVIDE GUIDANCE/ADVICE TO DEVELOPERS,PRODUCERS & OTHER SVCS/PRIVATE INDUSTRY.PLAN/COORDINATE RPT & MANAGE ADV PERFORMANCE TECH. PROVIDE ADM/LOGISTIC & OPN SPT TO DOD

## ...CURRENT IMPORTANT PROGRAMS

ROBOTICS EXPERIMENTATION  
M1 ABRAMS RAM-D GROWTH  
SURROGATE RESEARCH VEHICLE  
ADVANCED TECHNOLOGY RESEARCH  
INSTRUMENTATION DEVELOPMENT

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

VIDEO AUTOMATIC TARGET TRACKING SYS; SIMFIRE HIT-KILL INDICATOR;POSITION LOCATING SYS;WIRE GUIDED EVASIVE TARGET SYS;TANK VIDEO SYS; GUN CAMERA; RANGE TIMING EQ; TELEMETRY EQ; 16MM MOTION PICTURE CAMERA; THRU-TANK-OPTICS VIDEO DEVICE;GUN ELEVATION LIMITING DEVICE;SL R CAMERA; AUTOMATIC FILM ANALYZER & DIGITIZER SYS; DATA ANALYSIS & RECORDING SUB-SYS; VIDEO I & II; METEOROLOGICAL INSTR; MICROCOMPUTER DEVELOPMENT LAB; AUTOMATIC TARGET SCORING SYS;DIGITAL VIDEO PROCESSOR & BT-41 DI RECT CBT WEAPON SIMULATOR. ADP CAPABILITIES INCLUDE IN-HOUSE REDUCTION & ANALYSIS OF INSTR GENERATED DATA,TELECOMMUNICATIONS INTERFACE TO CD & T&E NETWORK & CLASSIFIED PROCESSING. 40 TON OVERHEAD CRANE; MACHINE SHOP; TACTICAL WHLD VEH & ENGR CONSTRUCTION EQ; ELEVATED CAMERA PLATFORM.



INSTALLATION: ARMY RESEARCH OFFICE

DURHAM, N.C.

DIR. DR. ROBERT E. WEIGLE

TECH. DIR. DR. HERMANN ROBL

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	67.120	86.919
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	0.112	0.112
TOTAL ANNUAL LAB	67.232	87.031
TOTAL INHOUSE	0.112	0.112
TOTAL INHOUSE RDT&E	0.000	0.000
ANNUAL OPERATING COST	1.726	1.420

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	2	0	2	0
CIVILIAN	95	33	36	59
TOTAL	97	33	38	59

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
6	0.000	24.840	0.000	24.840	0.000	0.829

...MISSION

TO MANAGE THAT PORTION OF THE ARMY'S RSCH PROGRAM RELEVANT TO ARMY MISSIONS IN MATH AND THE PHYS, ENGR, MATERIAL, BIOLOGICAL AND GEOSCIENCES ACCOMPLISHED THRU CONTRS AND GRANTS WITH EDUC INSTITS, RSCH INSTITS AND GOVT AND INDUS LABS AND TO REP ARMY RSCH INTERESTS

...CURRENT IMPORTANT PROGRAMS

ATMOSPHERIC EFFECTS ON TRANSMISSION.  
CHEMICAL AND BIOLOGICAL DEFENSE.  
JOINT SERVICES ELECTRONICS PROGRAM.  
DEGRADATION, REACTIVITY AND PROTECTION OF MATERIALS.  
VERTICAL LIFT TECHNOLOGY.

...FUNCTIONS/EQUIPMENT/CAFABILITIES

OVERSEAS.  
ADMINISTRATION OF RESEARCH PROGRAMS IN PHYSICAL SCIENCES  
MATHEMATICAL, MATERIAL, ELECTRONICS, MECHANICS AND AERONAUTICS.  
ADMINISTRATION OF THE RESEARCH PORTION OF ARMY RESEARCH AND STANDARDIZATION OFFICE, LONDON, COORDINATES ARMY RESEARCH EFFORTS WITHIN THE ARMY AND WITH OTHER GOVERNMENT AGENCIES SUCH AS NAVY, NASA, DOD, DOE, NSF AND OTHERS.

CDR. DIR. COL. W. E. RAWLINSON JR

DEP DIR. MR. JAMES E. MORRIS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	23.719	28.147
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.035	0.020
TOTAL OTHER	4.652	3.013
TOTAL ANNUAL LAB	28.406	31.180
TOTAL INHOUSE	17.154	20.619
TOTAL INHOUSE RDT&E	12.467	17.586
ANNUAL OPERATING COST	5.337	6.131

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	352	0	219	133
CIVILIAN	175	24	92	83
TOTAL	527	24	311	216

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
15	51.541	26.663	67.658	145.862	20.213	23.083

...MISSION

RESPONSIBLE FOR THAT PORTION OF ERADCOM MISSION DEVOTED TO RESEARCH IN ATMOSPHERIC SCIENCES. DEVELOP METEOROLOGICAL TECHNIQUES AND EQUIPMENT FOR THE FIELD ARMY. PROVIDE METEOROLOGICAL SERVICES TO ARMY RDE ACTIVITIES.

...CURRENT IMPORTANT PROGRAMS

METEOROLOGICAL DATA SYSTEM AN/TMQ-31  
ATMOSPHERIC DATA AND TECHNOLOGY FOR ARMY RDE  
ATMOSPHERIC EFFECTS ON DIRECTED ENERGY WEAPONS  
BATTLEFIELD ATMOSPHERIC EFFECTS ON ARMY SYSTEMS AND OPERATIONS  
WEATHER INTELLIGENCE AND ATMOSPHERIC SENSING ON THE BATTLEFIELD.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

METEOROLOGICAL RESEARCH FACILITY AND CAPABILITY  
NATIONAL HIGH ENERGY LASER SYSTEM TEST FACILITY  
TRANSPORTABLE ATMOSPHERIC CHARACTERIZATION STATION  
METEOROLOGICAL RDE SUPPORT FACILITIES - ALASKA TO CANAL ZONE  
UPPER ATMOSPHERE RESEARCH AND SOUNDING ROCKET FACILITY AND CAPABILITY  
MULTISPECTRAL IMAGE DATA ACQUISITION SYSTEM  
INFRARED TEST SITE FACILITY.  
AUTOMATIC METEOROLOGICAL STATIONS SYSTEM AN/TMQ-30  
METEOROLOGICAL INSTRUMENTATION TEST MAINTENANCE/CALIBRATION FACILITY  
TOXIC CORRIDOR PREDICTION SYSTEM

PRES. COL. ROBERT A. WAGG JR

TECH. ADV. MR. GEORGE E. SLAGLEY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	3.943	6.398
TOTAL PROCUREMENT	0.796	0.879
TOTAL O&M	0.525	0.250
TOTAL OTHER	2.317	2.549
TOTAL ANNUAL LAB	7.581	10.066
TOTAL INHOUSE	5.963	9.157
TOTAL INHOUSE RDT&E	2.965	6.358
ANNUAL OPERATING COST	1.494	1.904

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	79	0	29	50
CIVILIAN	36	2	10	26
TOTAL	115	2	39	76

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	0.000	18.681	13.599	32.280	0.000	1.756

...MISSION

TO PLAN, CONDUCT AND REPORT ON OPERATIONAL TEST I,II AND IIA FOR NONMAJ AND OTHER TESTS AS DIRECTED BY HQ TRADOC. AVN BD DESIGNS AND CONDUCTS TESTING AND EVALUATION OF AVIATION SYSTEMS, SUBSYSTEMS AND ANCILLIARY EQUIPMENT.

...CURRENT IMPORTANT PROGRAMS

LIGHT AIR CAVALRY TROOP TEST (LACT)  
AIRBORNE TARGET HANDOFF SYSTEM (ATHS)  
LIQUID METHANE FUEL  
CH-47 TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT  
TRAINING EFFECTIVENESS ANALYSIS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

NO MAJOR EQUIPMENT OR FACILITY.

CDR. COL. WILLIAM B. WOODSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT - EST)
TOTAL RDT&E	9.902	10.367
TOTAL PROCUREMENT	1.107	0.952
TOTAL O&M	3.824	2.312
TOTAL OTHER	3.377	3.450
TOTAL ANNUAL LAB	18.210	17.081
TOTAL INHOUSE	18.210	17.081
TOTAL INHOUSE RDT&E	9.902	10.367
ANNUAL OPERATING COST	7.332	7.956

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	126	0	25	101
CIVILIAN	93	0	37	56
TOTAL	219	0	62	157

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1196	0.000	40.374	112.463	152.837	1.404	35.397

...MISSION

PLAN, CONDUCT, EVALUATE & REPORT ON AVN GOVT TEST ELEM (EDT-G, ADVT-G, PQT-G, PVT-G), PROVIDE INPUT, MONITOR, ANALYZE & EVALUATE RESULTS OF GOVT TESTS PERTAINING TO ACFT PERFORMANCE, STABILITY & CONTROL, & THE RESULTS OF OTHER GOVT TESTS. PROVIDE INPUT, MONITOR, ANALYZE & EVALUATE CONTR TESTS.

...CURRENT IMPORTANT PROGRAMS

RAM GROWTH/MATURITY TESTING OF THE CH-47D  
CH-47C W/T-55 L-712 ENGINE  
LOGISTICAL EVALUATION OF THE UH-60A BLACKHAWK  
PRODUCTION VALIDATION TEST CH-47D  
AH-1S IMPROVED MAIN ROTOR BLADE.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TWENTY-SEVEN FIXED & ROTARY WING AIRCRAFT ARE ASSIGNED (6 UH-1, 5 CH-47, 3 OH-58, 1 OV-1, 1 U-21, 7 AH-1, 1 T-42, 1 UH-60, 1 EH-1, 1 TH-55) AND MAY BE USED AS TEST BEDS FOR ALL COMPONENTS, EQUIPMENT OR SUPPLIES APPLICABLE TO THAT SERIES. A MODULAR ENGINE TEST SYSTEM (METS) PROVIDES ACCURATE MEASUREMENTS OF TURBINE ENGINE PERFORMANCE FOR ENGINES UP TO 5000 HP & WT UP TO 2000 LB. AN OVER-WATER RANGE IS AVAIL FOR RELIABILITY TESTING OF A/C WEAPONS SYS. ON-SITE DATA PROCESSING & DISPLAY CAPABILITY EXISTS WITH PDP-11 & IBM 4331 COMPUTER SYS. ADMIN & TECH PHOTO CAP ARE AVAIL TO INCL VIDEO & 16MM INSTRUMENTATION CAMERAS. THE INSTRUMENTATION BRANCH CAN COLLECT ANALOG & DIGITAL MEASUREMENTS USING 14-TRACK INSTR RECORDERS, HAS B&W & COLOR VIDEO RECORDING CAP, STRIP-CHART RECORDERS, OSCILLOGRAPH RECORDERS & AIRINC 514 AIRLINE-TYPE CRASH RECORDERS.

CDR. COL. J. MCCONNELL

TECH. DIR. MR. JAMES S. HAYDEN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL PDT&E	7.719	7.950
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	1.338	1.492
TOTAL ANNUAL LAB	9.057	9.442
TOTAL INHOUSE	8.419	8.717
TOTAL INHOUSE RDT&E	7.081	7.225
ANNUAL OPERATING COST	1.885	1.980

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	65	0	27	38
CIVILIAN	100	1	33	67
TOTAL	165	1	60	105

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
19	9.200	1.600	124.800	135.600	3.850	12.602

...MISSION

PRODUCE ENGR FLT TEST DATA ON ACFT PERF, HANDLING QUALITIES, VIBRATION. SYS/SUBSYSTEM INTERFACE FOR USE IN ACFT DEVELOPMENT AND QUALIFICATION. SUSTAIN THE CAPABILITY TO COMPLETELY INSTRUMENT TEST ACFT WITH ONBOARD RECORDING/TELEMETRY REAL TIME DATA REDUCTION. CONDUCT PRE-TPS ORIENT.

...CURRENT IMPORTANT PROGRAMS

ROTOCRAFT SYSTEMS INTEGRATION SIMULATOR (RSIS)  
PAE OF THE INDIVIDUAL LIFT DEVICE (ILD)(WASPII)  
LIMITED ARTIFICIAL ICING TESTS OF OV-1D  
YAH-64 A&FC, PTIII  
PAE JOH-8A

...FUNCTIONS/EQUIPMENT/CAPABILITIES

JT-28B 2T-28B 20V-1C JU21A JAH-1S 2JCH-47C JOH-58C JUH-60A 5JUH-1H  
ACFT MAINT CAPABILITY  
ACFT MODIFICATION CAPABILITY  
ACFT INSTRUMENTATION CAPABILITY  
AIRBORNE DATA ACQUISITION-SYSTEMS  
IEMR COMPUTER WITH TELEMETRY  
3REMOTE GROUND STATIONS WITH COMPUTER AND TELEMETRY CAPABILITY

**INSTALLATION: AVIATION RESEARCH & TECHNOLOGY LABORATORIES MOFFETT FIELD, CA.****DIR. DR. RICHARD M. CARLSON****DEP. DIR. COL. WALTER URBACH, JR****PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	72.614	59.779
TOTAL PROCUREMENT	12.510	3.631
TOTAL O&M	1.423	0.600
TOTAL OTHER	0.657	0.673
TOTAL ANNUAL LAB	87.204	64.683
TOTAL INHOUSE	28.839	23.900
TOTAL INHOUSE RDT&E	26.264	22.571
ANNUAL OPERATING COST	6.041	6.625

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	15	1	11	4
CIVILIAN	359	27	256	103
TOTAL	374	28	267	107

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
127	88.848	58.673	16.370	163.891	2.272	13.107

**...MISSION**

MANAGE AND EXECUTE RESEARCH AND DEVELOPMENT OF ARMY AIRMOBILE SYSTEMS. PROVIDE TECHNICAL SUPPORT TO PROJECT/PRODUCT MANAGERS AND SYSTEM DEVELOPERS AS REQUIRED. PROVIDE INDEPENDENT TECHNICAL RISK ASSESSMENT TO COMMANDER USAAVRADCOM AND HIGHER AUTHORITY.

**...CURRENT IMPORTANT PROGRAMS**

RSCH IN FUNDAMENTAL ROTOR/ROTORCRAFT AERODYNAMICS, DYNAMICS, AND NOISE. R&D OF ENGINES, SMALL GAS TURBINES, TRANSMISSIONS, AND BEARINGS. R&D TO IMPROVE RELIABILITY & MAINTAINABILITY OF AIRMOBILE SYSTEMS. RSCH COMPOSITES & EVALUATE APPLICATIONS TO IMPROVE STRUCTURES FOR A/C. EVOLVE TECHNOLOGY & CRITERIA TO IMPROVE FLIGHT SAFETY & SURVIVABILITY.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

THREE LABORATORIES AT MOFFETT FIELD CA, CLEVELAND OH, HAMPTON VA, COLLOCATED WITH NASA, PARTICIPATING IN RESEARCH OF AIRMOBILE SYSTEMS AND DISCIPLINES, JOINTLY USING WIND TUNNELS, SIMULATORS AND LABORATORY TEST FACILITIES, INCLUDING SHOPS, FLIGHT LINE AND HANGAR, STRUCTURE LAB, ENGINE TEST FACILITIES AND COMPUTATIONAL EQUIPMENT. FOURTH LABORATORY AT FORT EUSTIS VA, PERFORMING ADVANCED APPLICATIONS WORK INCLUDING AIRCRAFT WEAPONIZATION AND MISSION SUPPORT EQUIPMENT. MAJOR EQUIPMENT AND FACILITIES ARE FILAMENT WINDING MACHINES, TENSILE TESTERS, VIBRATION TESTER, SMALL BALLISTIC RANGE, CALIBRATION LAB, ENVIRONMENT CHAMBER, ATOMIC ABSORPTION SPECTROMETER, TELEMETER GROUND STATION, NON-DESTRUCT TESTING FACILITY, AND FLIGHT SAFETY LAB.

# INSTALLATION: AVIONICS R & D ACTIVITY

FT. MONMOUTH, N. J.

CDR. COL. DARROLD GARRISON

DEPUTY DIR. MR. THEODORE SUETA

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	26.405	20.718
TOTAL PROCUREMENT	16.765	7.161
TOTAL O&M	4.612	5.135
TOTAL OTHER	0.466	0.939
TOTAL ANNUAL LAB	48.248	33.953
TOTAL INHOUSE	18.034	11.056
TOTAL INHOUSE RDT&E	7.153	6.249
ANNUAL OPERATING COST	4.023	4.225

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	18	0	16	2
CIVILIAN	264	5	162	102
TOTAL	282	5	178	104

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	52.450	13.140	19.100	84.690	0.000	7.686

## ...MISSION

RESPONSIBLE FOR THAT PORTION OF AVRADCOMS MISSION WHICH PERTAINS TO AVIONICS FROM RESEARCH THRU FIRST-TIME PRODUCTION. THIS EMCOMPASSES AIRBORNE AND GROUND EQUIPMENT FOR COMMUNICATIONS, NAVIGATION, AIR TRAFFIC MGT ENVIRONMENT SENSING, LANDING, AND INSTRUMENTATION.

## ...CURRENT IMPORTANT PROGRAMS

ARMY DIGITAL AVIONICS SYSTEM.  
INTEGRATED INERTIAL NAVIGATION SYSTEM.  
ADVANCED DIGITAL COMMUNICATIONS.  
AIRBORNE TARGET HANDOFF SYSTEM.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR EQUIPMENT INCLUDES DIGITAL HOT BENCH, WIRE DETECTION AND RECOGNITION SIMULATOR, AND AUDIO/DIGITAL ANALYZERS.  
FACILITIES INCLUDE ACOUSTIC/AUDIO ANALYSIS FACILITY, TACTICAL AVIONICS SYSTEM SIMULATOR (TASS), SYSTEM TEST BED FOR AVIONICS RESEARCH (STAR), COMPUTER AIDED DESIGN/ENGINEERING, (CAD/E) FACILITY, AVRADA PRODUCT ASSURANCE AND COMPUTATION FACILITY, ADJACENT HELIPORT, PLANNED POST DEPLOYMENT SOFTWARE SUPPORT CENTER.

DIR. DR. ROBERT J. EICHELBERGER

DEP. DIR. COL. ROBERT N. MATHIS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	58.702	56.000
TOTAL PROCUREMENT	0.528	1.000
TOTAL O&M	2.677	2.000
TOTAL OTHER	9.675	6.600
TOTAL ANNUAL LAB	71.582	65.600
 TOTAL INHOUSE	 51.209	 51.400
TOTAL INHOUSE RDT&E	45.785	46.800
ANNUAL OPERATING COST	10.854	11.825

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	25	1	11	14
CIVILIAN	665	109	411	254
TOTAL	690	110	422	268

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1920	511.780	11.200	40.982	563.962	13.870	41.386

...MISSION

FUNDAMENTAL RESEARCH IN PHYS, CHEM, MATH AND ENGINEERING FOR MILITARY SCIENCES AND TECHNOLOGIES, BALLISTIC APPLICATIONS OF NEW TECHNOLOGIES AND CHARGED PARTICLE BEAM TECHNOLOGY.

...CURRENT IMPORTANT PROGRAMS

PROPULSION DYNAMICS OF HYPERVELOCITY AND CONVENTIONAL GUNS, LIQUID PROPELLANTS FOR GUNS, TRANSITIONAL BALLISTICS, PRECISION AIR TECHNIQUE, BALLISTIC PROTECTION/ARMOR, KE PENETRATORS, WARHEAD MECHANICS, EXPLOSIVE/METAL INTERACTION, HIGH EXPLOSIVE ANTITANK WARHEADS, SELF CONTAINED MUNITIONS, PENETRATION, FRAGMENTATION, FLIGHT DYNAM OF PROJ

...FUNCTIONS/EQUIPMENT/CAPABILITIES

EXPLOSIVE BLAST CHAMBERS;AERODYNAMIC RANGES;HIGH ALTITUDE BLAST SPHERE; SHOCK TUBES TO SIMULATE SOFT RECOVERY SYSTEM FOR ARTILLERY SHELLS; HI SPEED MOTION PHOTOGRAPHY;FIELD TEST FACILITIES FOR PROJECTILE,EXPLOSIVE AND ARMOR RESCH TESTS;ANALOG COMPUTER FOR SIMULATION OF KINEMATICS OF GUNS AND RIFLES;CENTRAL SITE COMPUTATIONAL FACILITY WITH REMOTE INTER-ACTIVE TERMINALS AND REMOTE BATCH TERMINALS;AN ENVIRONMENTALLY SECURE FULL SCALE TANK GUN TEST FACILITY;PULSED FLOW CHEMICAL REACTOR SYSTEM; ION BEAM ACCELERATOR,VAN DE GRAAFF FOR SURFACE ANALYSIS STUDIES AND FOR MONO ENERGETIC XRAY PRODUCTION.



CDR. BG. HOWARD C. WHITTAKER

DEP. DIR. DR. B. RICHARDSON

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	114.842	100.811
TOTAL PROCUREMENT	6.838	21.922
TOTAL O&M	6.700	7.200
TOTAL OTHER	1.880	1.950
TOTAL ANNUAL LAB	130.260	131.883
TOTAL INHOUSE	64.447	67.471
TOTAL INHOUSE RDT&E	52.929	51.269
ANNUAL OPERATING COST	9.173	10.321

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	94	1	13	81
CIVILIAN	871	60	538	333
TOTAL	965	61	551	414

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1750	371.863	14.184	322.701	708.748	18.687	30.219

## ...MISSION

A RSCH, DEV AND ENGR LAB PROVIDING DETERRENT AND RETALIATORY CAPABILITY AND PROTECTION AGST CML AND BIOL ATTACK. EVAL COMBAT PROT CLOTHING AND EQUIPMENT, PLAN AND CONDUCT ARMY SMOKE OBSCURANT SYSTEMS R:D. BASIC RESEARCH; SMOKE/OBSCURANT SYSTEMS.

## ...CURRENT IMPORTANT PROGRAMS

INDIVIDUAL/COLLECTIVE PROTECTION  
 CHEMICAL BIOLOGICAL DETECTION AND WARNING MATERIEL  
 CHEMICAL/BIOLOGICAL DECONTAMINATION AND CONTAMINATION AVOIDANCE  
 SMOKE OBSCURANT SYSTEMS  
 CHEMICAL DETERRENT SYSTEMS

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

ANALYSIS AND INTEGRATION OF CHEMICAL DEFENSE SYSTEMS; RECONNAISSANCE, DETECTION, AND IDENTIFICATION; INDIVIDUAL PROTECTION; COLLECTIVE PROTECTION; DECONTAMINATION AND CONTAMINATION AVOIDANCE; TRAINING SYSTEM TOXIN DEFENSE; DETERRENT SYSTEMS.

MAJOR EQUIP IS CONTAINED IN A COMPLEX OF ENGR/LAB AREAS. INCLUDES CML PILOT PLANTS, AEROSOL CHAMBER, MUNITION FILLING FACILITY, PRODUCTION AND FACILITY DESIGN, CHAMBER FOR STUDIES ON SPEECH TRANSMISSION, SIMULANT AGENT CHALLENGE TEST CHAMBER, RUBBER/ELASTOMER MOLD FACILITY, SPECIALIZED CHEMICAL AGENT LAB, PYROTECHNIC MIXING, LOADING, HANDLING FACILITY, COMPUTER MAN, INDOOR BALLISTIC RANGE; SUBSONIC-SUPERSONIC, TRANSONIC WIND TUNNEL.

CDR. DIR. COL. W. A. HANSON

TECH. DIR. DR. LLOYD BRESLAU

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	9.933	11.763
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.463	0.945
TOTAL OTHER	8.417	8.679
TOTAL ANNUAL LAB	18.813	21.387
TOTAL INHOUSE	14.790	16.785
TOTAL INHOUSE RDT&E	7.152	8.469
ANNUAL OPERATING COST	3.200	3.750

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	14	0	8	6
CIVILIAN	263	31	125	138
TOTAL	277	31	133	144

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
20	80.787	30.027	128.544	239.358	8.409	9.174

## ...MISSION

AS THE ARMY LABORATORY FOR SCIENCE AND TECHNOLOGY IN COLD REGIONS, THE COLD REGIONS RESEARCH & ENGINEERING LABORATORY CONDUCTS AND COORDINATES RESEARCH APPLICABLE TO THE ARMY'S NEEDS WHERE WINTER WEATHER AND COLD PRESENT A SEVERE PROBLEM. MANAGE ARMY COLD REGIONS INFORMATION CENTER

## ...CURRENT IMPORTANT PROGRAMS

WINTER COMBAT OPERATIONS TECHNOLOGY  
IMPACT OF WINTER ENVIRONMENT ON NEW WEAPON SYSTEMS AND OTHER MATERIEL  
FACILITIES CONST, OPERATION, & REPAIR IN TEMP & ARCTIC COLD CONDITIONS  
CONTROL OF ICE ON STRUCTURES, EQUIPMENT AND IN NAVIGATION

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

THE MAIN LABORATORY AT USACRREL CONTAINS 24 COLD LABS (WHICH CAN BE OPERATED TO -58 F), SPECIAL TESTING APPARATUS FOR FROZEN MATERIALS, AN ICE ENGINEERING FACILITY FOR LARGE MODELING EXPERIMENTS WITH ICE, A CHEMISTRY LAB, AN ELECTRON MICROSCOPE LAB, A SOILS PROCESSING LAB, A PAVEMENT TEST FACILITY FOR TESTING UNDER FREEZING/THAWING CONDITIONS, A WASTEWATER TREATMENT RESEARCH FACILITY, A COMPUTER FACILITY, A MASS SPECTROMETER, A GAS CHROMATOGRAPH, AND A SMALL LASER FACILITY. THE ALASKA PROJECTS OFFICE AT FAIRBANKS CONDUCTS RESEARCH AND PROVIDES LOGISTICS SUPPORT FOR OTHER RESEARCH. USACRREL'S MILITARY AND CIVILIAN PERSONNEL HAVE EXPERTISE COVERING A WIDE RANGE OF SCIENTIFIC AND ENGINEERING DISCIPLINES RELATED TO COLD REGIONS RESEARCH. NEW FACILITIES SCHEDULED FOR CONSTRUCTION INCLUDE A FROST EFFECTS RESEARCH FACILITY.

CDR. COL. JAMES F. HENRIONNET

TECH. ADV. MR. WILLIAM J. HASLEM

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	6.186	6.698
TOTAL PROCUREMENT	0.115	0.015
TOTAL O&M	0.003	0.003
TOTAL OTHER	5.182	5.385
TOTAL ANNUAL LAB	11.486	12.101
TOTAL INHOUSE	11.486	12.101
TOTAL INHOUSE RDT&E	6.186	6.698
ANNUAL OPERATING COST	5.152	5.784

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	263	0	23	240
CIVILIAN	22	1	10	12
TOTAL	285	1	33	252

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)			COST (MILLION \$)		
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
647155	0.000	18.205	236.033	254.238	10.336	9.283

## ...MISSION

PLAN, CONDUCT, AND REPORT THE RESULTS OF COLD REGIONS, MOUNTAIN AND NORTHERN ENVIRONMENTAL PHASES OF DEVELOPMENT AND OTHER TESTS; REVIEW PLANS AND MONITOR DEVELOPMENT TESTING IAW INTEGRATED TESTING CYCLE POLICIES. PROVIDE ADVICE AND GUIDANCE TO GOVT AGENCIES AND PRIVATE IND.

## ...CURRENT IMPORTANT PROGRAMS

FAT BRADLEY INFANTRY FIGHTING VEHICLE, M2  
TFT NORWEGIAN LIGHTWEIGHT DECONTAMINATION SYSTEM  
TFT M804 155MM PROJECTILE  
IPT HEAVY EXPANDED MOBILITY TACTICAL TRUCK  
DTI SIMPLIFIED COLLECTIVE PROTECTIVE EQUIPMENT.

## ...FUNCTIONS/EQUIPMENT CAPABILITIES

FACILITY CAN ACCOMMODATE A WIDE VARIETY AND LARGE NO TESTS AT ANY ONE TIME. SEVERAL VEH TEST COURSES AND EXTENSIVE CROSS COUNTRY TERRAIN RANGES ARE AVAILABLE. 500,000 ACRE ISOLATED IMPACT AREA, 50KM MAX UNOBSERVED RANGE. LARGE RESTRICTED AIRSPACE WITH UNRESTRICTED FIRING TO 10,000 FT ORDNATE. COORD WITH FAA CAN EFFECT UNRESTRICTED ORDNATE. 1ST, 2ND, OR 3RD ORDER SURVEY POINTS. GOOD SECONDARY ROADS. PHONE/NON-TAC RADIO AT ALL RANGES AND TEST SITES. ALUODIN, FACSIMILE, TELETYPE, PHOTO LAB AND MAINT FOR MAJORITY OF EQUIP INCL ACFT, DS/GS CALIBRATION, LIMITED ENGR SUPPORT. ARMY AVN AND USAF ACFT CAN BE ARRANGED. METEOROLOGICAL SPT AVAIL. INST FOR MOST ITEMS AVAIL, CAN OBTAIN OTHER INSTRUMENTS. MOVING TARGET SYSTEM, EOD, STATISTICAL, MAINT EVALUATION, AND HUMAN FACTORS CAPABILITIES AVAILABLE. COMPUTER FACILITY AVAILABLE. TEMPERATURES TO -50 F COMMON.

CDR. DIR. COL. HARVEY J. REYNOLDS

DEP. DIR. MR. THOMAS DANIELS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	19.996	22.825
TOTAL PROCUREMENT	17.569	37.200
TOTAL O&M	2.089	2.127
TOTAL OTHER	0.228	0.262
TOTAL ANNUAL LAB	39.882	62.414
TOTAL INHOUSE	5.042	6.105
TOTAL INHOUSE RDT&E	3.076	3.300
ANNUAL OPERATING CUST	4.362	4.500

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	14	0	14	0
CIVILIAN	116	3	91	25
TOTAL	130	3	105	25

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
35	52.324	6.139	10.589	69.052	0.680	6.436

...MISSION

CONDUCT ALL PHASES OF R&D AND PROD IN THE FOLLOWING TECHNOLOGIES: IDENT FRIEND OR FOE - RADIATION DETECT & MEAS - RADAR - ACOUSTIC LOCATION - REMOTE SENSING - AND IMAGERY INTERPRETATION.

...CURRENT IMPORTANT PROGRAMS

PROCUREMENT OF MOBILE GROUND IMAGERY INTERPRETATION FACILITY.  
DEV OF IDENTIFICATION FRIEND OR FOE EQUIPMENTS.  
DEV OF ADVANCED GROUND SURVEILLANCE & TARGET ACQ RADAR SYSTEM.  
DEV & PRODUCTION OF VARIOUS NUCLEAR RADIATION DETECT & MEAS EQPTS.  
DEV & PRODUCTION OF IMPROVED SOUND RANGING EQPT.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

RADAR TECHNOLOGY DEVELOPMENTS INCL: ANECHOIC CHAMBER FOR ANTENNA PATTERN & RADAR TESTING; 65 FT HIGH RADAR TEST PLATFORM; INDOOR & OUTDOOR RANGES INSTRUMENTED FROM 30 MHZ TO 70 GHZ; X-BAND INSTRUMENTATION RADAR WITH SHORT RANGE SEARCH CAPABILITY FOR RECORDING POSITION, VELOCITY, & SIGNAL STRENGTH. RADIOLOGICAL TECHNOLOGY INCLUDES AN ASSISTANCE TEAM EXPERIENCED IN FUNCTIONING NEAR NUCLEAR DETONATIONS, FALLOUT FIELDS & RADIOLOGICAL ACCIDENTS.

PRES. COL. EDWIN W. CHANDLER

ENGR. ADV. MR. RONNIE E. BRACKETT

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.456	2.036
TOTAL PROCUREMENT	0.463	0.380
TOTAL O&M	0.036	0.302
TOTAL OTHER	2.269	1.582
TOTAL ANNUAL LAB	5.224	4.300
TOTAL INHOUSE	5.224	4.300
TOTAL INHOUSE RDT&E	2.456	2.036
ANNUAL OPERATING COST	0.975	1.225

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	67	0	48	19
CIVILIAN	32	0	11	21
TOTAL	99	0	59	40

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
7	0.000	20.950	0.498	21.448	0.210	1.024

...MISSION

PLANS, CONDUCTS AND REPORTS ON OPERATIONAL TESTS OT I, II, AND, III OF C-E SYSTEMS AND FORCE DEVELOPMENT TESTING AND EXPERIMENTATION AS PUBLISHED IN THE DA FIVE YEAR TEST PROGRAM. CONDUCTS CONCEPT EVALUATION PLANS AND OTHER USER-RELATED/CUSTOMER TEST DIRECTED BY TRADOC

...CURRENT IMPORTANT PROGRAMS

AN/TSC-85A AND AN/TSC-93A TACSATCOM  
ARMY DATA DISTRIBUTION SYSTEM/PACKET RADIO EXPERIMENT  
ANTI-JAM AJ /CONTROL MODEMS FOR GMF TACSAT  
SPECIAL FORCES BURST COMM SYS  
AN/TSG-84A UPGRADE COMMUNICATIONS TECH CONT CTR

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MANUAL AND AUTOMATED STIMULUS AND MEASUREMENT EQUIPMENT THAT PROVIDES DATA COLLECTION AND ANALYSIS CAPABILITY OF COMMUNICATIONS-ELECTRONICS CIRCUITS, EQUIPMENT, AND SYSTEMS

CDR. B.G. ROBERT D. MORGAN TECH DIR. MR. THEODORE PFEIFFER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	88.083	98.499
TOTAL PROCUREMENT	18.267	19.465
TOTAL C&M	3.926	6.695
TOTAL OTHER	1.255	0.000
TOTAL ANNUAL LAB	111.531	124.659
TOTAL INHOUSE	17.862	21.580
TOTAL INHOUSE RDT&E	14.890	18.752
ANNUAL OPERATING COST	3.896	4.614

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	68	0	16	52
CIVILIAN	429	17	319	110
TOTAL	497	17	335	162

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	90.734	38.189	0.000	128.923	0.000	22.500

...MISSION

CDT RSCH: EXPLORATORY, AND ADV DEV, SOFTWARE SPT AND COMD,  
CON, AND COMM (C3) SYS ENGR FUNCTIONS

...CURRENT IMPORTANT PROGRAMS

MULTICHANNEL COMMAND POST RADIO  
MULTIPLEXER/OPTICAL MODEM  
SOFTWARE DEVELOPMENT  
SYS ARCH CONCEPTS DOCUMENT FOR TACTICAL C3  
SPECIAL MANAGEMENT PILOT SYSTEM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

DEV OF A SINGLE GUN OSC CPBL OF 100-MILLIWATT OUTPUT POWER  
THROUGH THE ELCT TUNABLE 36.0-38.6 GHZ BAND  
CONTRACTUAL FABRICATION OF 12-CHANNEL MINIMUX  
PLAN AND IMPL THE DEV, INTRODUCTION AND SPT OF GENERIC SOFT-  
WARE TOOLS, METHODOLOGIES AND SOFTWARE FOR THE ARMY  
EST COMP COMD, CON, AND COMM (C3) SYS DESIGN WHICH PROV FOR  
EFF USE OF TAC FORCES  
PILOT SYS TO PRO OP CPBL AND A REAL WORLD VEHICLE TO RSCH  
POT BATTLEFIELD SPECTRUM MGT CONCEPTS THROUGH A PROG WHICH  
INCL INTERACTION WITH FLD USES.

**CDR. DIR. COL. L. J. CIRCEO**
**TECH. DIR. DR. L. R. SHAFFER**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	8.860	11.500
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	3.441	5.000
TOTAL OTHER	6.196	8.000
TOTAL ANNUAL LAB	18.497	24.500
TOTAL INHOUSE	11.056	14.500
TOTAL INHOUSE RDT&E	4.860	6.500
ANNUAL OPERATING COST	4.000	4.500

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	9	1	8	1
CIVILIAN	206	34	95	111
TOTAL	215	35	103	112

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
30	56.785	34.750	20.019	111.554	6.500	5.000

**...MISSION**

PLAN AND EXECUTE RESEARCH TO OBTAIN THE BEST COMBINATION OF ENGINEERING DESIGN, CONSTRUCTION, OPERATIONS AND MAINTENANCE TO PROVIDE FACILITIES FOR THE MIL ESTABLISHMENT AND OTHER AGENCIES AT LEAST COST AND TO DISSEMINATE THE RESEARCH RESULTS

**...CURRENT IMPORTANT PROGRAMS**

DEV ENERGY CONSERVATION TECH/PROC FOR MIL INSTALLATIONS  
 DEV COMPUTER AIDED SYSTEMS FOR PLANNING AND DESIGN  
 DEV IMPROVED SYSTEMS FOR RPMA OF MIL FACILITIES  
 DEV SYSTEMS FOR ENVIRONMENTAL QUALITY MGMT  
 ADAPT ALTERNATE FUELS TECHNOLOGY FOR MIL FACILITIES

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

CONTROLLED ENVIRONMENT CHAMBERS; 1-MIL POUND CLOSED-LOOP MATERIAL TEST SYSTEM; SCANNING ELECTRON MICROSCOPE; SEMI-AUTO WELDING EQMT; BI-AXIAL SHOCK TEST MACHINE; NON-DESTRUCTIVE TESTING FACILITY; VACUUM INDUCTION FURNACES; METALLOGRAPHIC SAMPLE PREP; METALLOGRAPH X-RAY DIFFRACTION AND VACUUM SPECTROSCOPY SYSTEM; DYNAMIC TENSION ANALYSIS SYSTEM; DIGITAL RECORDING ANALYSIS EQMT; AND HVAC TEST FACILITY. CAPABILITIES INCLUDE SYSTEMS BUILDING METHODS AND TECHNIQUES; COMPUTER-BASED DESIGN AND CONSTRUCTION MGMT TECHNIQUES; ENERGY SYSTEMS DESIGN; CONSERVATION AND ALTERNATE FUELS STRATEGIES; HARDENED FACILITIES ANALYSIS; ENVIRONMENTAL QUALITY MGMT; POLLUTION CONTROL ABATEMENT; MIL HOUSING SYSTEMS; UTILITY SYSTEMS ANALYSIS AND EVALUATION; QUALITY OF LIFE AND ARCHITECTURAL RESEARCH; AND ELECTROMAGNETIC PULSE/INTERFERENCE RESEARCH

COR. COL. GEORGE A. CURRUTH

SCI. DIR. DR. LOTHAR L. SALOMON

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	40.411	45.154
TOTAL PROCUREMENT	0.135	0.189
TOTAL O&M	1.605	1.531
TOTAL OTHER	5.713	4.004
TOTAL ANNUAL LAB	47.864	50.878
TOTAL INHOUSE	38.028	41.923
TOTAL INHOUSE RDT&E	31.641	36.786
ANNUAL OPERATING COST	14.602	13.737

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	143	2	21	122
CIVILIAN	608	14	73	535
TOTAL	751	16	94	657

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
840911	104.875	201.133	1643.266	1949.274	77.902	28.075

## ...MISSION

DPG PLANS & CONDUCTS APPROVED TESTS TO ASSESS THE MILITARY VALUE OF CML WEAPONS, SMOKE/OBSCURANTS & CML-BIO DEF SYS. TESTS SPT R&D & PROVIDE BASIS FOR DEVELOPMENT OF NEW OPERATIONAL & LOGISTICAL CONCEPTS FOR EMPLOYMENT OF TESTED SYS. TESTS ARE RESPONSIVE TO USER REQUIREMENTS.

## ...CURRENT IMPORTANT PROGRAMS

CONDUCTS SERVICE DEV CML CML-BIO DEFENSE SMOKE/OBSCURANT TEST PROGRAMS  
CONDUCTS R & D & LAB INVESTIGATIONS NECESSARY TO SUPPORT MISSION  
CONDUCTS JT OP CML & CML-BIO DEFENSE TESTS/STUDIES FOR CINCS, SERVICES  
CONDUCTS PROG TO SUP ARMY POLL ABATEMENT HAZARD EVAL & DEMIL OPNS  
CONDUCTS ECOLOGICAL EPIDEMIOLOGICAL & TOXICOLOGICAL SURVL OF DPG AREA.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

INST GRIDS FOR CML CML-BIO TESTS: ARTY RG FOR CONVL & CML METAL PARTS, BALLISTIC & DISSEM TESTS: WITH FIELD SMPL, SMPL MASS ANAL, MET(AUTO DATA ACQ & MESOMET NETWK)SYS. TSPI(RADAR SLAVE PHOTO)SYS; PHYS & ENVIRON TEST FAC(HIL SPEC 810) CHAMBERS FOR TOTAL AGENT CONTAINMNT; EXPLO SHIELDING PROPAGATION & OVERPRESSURE MEASMNTS, OPNS SPTD BY MET RSCH ON BEHAVIOR OF CLOUDS; CML, LIFE SCI TECHN, ECOL SURVL OF DPG; CAFBL FOR PLANNING ANAL, EVAL OF TESTS, OPNS RSCH; LABS EQUIPD FOR WIDE RNG OF CML, MICROBIOL, TOXICOL, IMMUNOL, ECOL, EPIDEMIO, POLL CNTL STUDIES; CAFBL FOR PROD BIO SIMUL AG; TECHN & MASS ASSAY OF FLUORESCENT AIR TRACERS; EXTENSV COMM & RG SAFETY SYS. OUTSTANDING ARE LARGE LAND AREA, RESTRICTED AIRSPACE, LONG & FLAT ARTY RANGES, PROJECTILE RECOVERY, SONIC & ELECTROMAG STERILITY, DIVERSE SKILLS.



INSTALLATION: ELECTRONIC PROVING GROUND,

FORT HAUCHUCA, AZ.

CDR. COL. JAMES H. PHILLIPS

TECH. DIR. MR. GRADY H. BANISTER JR

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	30.711	36.637
TOTAL PROCUREMENT	4.828	1.251
TOTAL O&M	1.922	2.328
TOTAL OTHER	13.872	14.781
TOTAL ANNUAL LAB	51.333	55.197
TOTAL INHOUSE	32.257	30.208
TOTAL INHOUSE RDT&E	15.951	16.958
ANNUAL OPERATING COST	10.733	11.007

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	649	1	27	622
CIVILIAN	221	0	82	139
TOTAL	870	1	109	761

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
67000	0.150	44.235	234.587	278.972	8.600	48.100

...MISSION

PLAN, CONDUCT, EVALUATE AND REPORT ON DEVELOPMENT AND OTHER ENGINEERING. LAB-TYPE TESTS OF GROUND AND AIRBORNE EQUIPMENT AND SYSTEMS THAT UTILIZE ELECTRONIC/ELECTROMAGNETIC TECHNOLOGY. MAINTAIN MODERN TEST FACILITY, INSTRUMENTATION, AND METHODOLOGY CAPABILITY.

...CURRENT IMPORTANT PROGRAMS

REMOTELY MONITORED BATTLEFIELD SENSOR SYSTEM  
SINGLE CHANNEL GROUND AIRBORNE RADIO SYSTEM  
C3I SYS TEST CAPABILITY  
HAND EMPLACED EXPENDABLE JAMMERS  
DATA LINK VULNERABILITY JOINT TEST FORCE

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCT TESTS OF HDWR/SOFTWARE, DOCTRINAL CONCEPTS/SCENARIOS TEST CAPABILITY INCL TEST OF COMM, IMAG, IMAGERY INTERPRETATION MET, RADIAC, RDR, LASER INTEL, EM, CMD/CTRL, PWR SOURCES, RPV, GND&SCTY SENSORS SYS/EQUIP INCL EMC, EMI, EMV, ECM, ECCM, TENPEST AND INTRA/INTEROPERABILITY ANAL AS REQ. TECHNIQUES INCL BENCH AND FLD TEST W/ACCESS TO EXTENSIVE REAL EST, MATH MDL AND SIM FACS INCL: EM, CLIMATIC/STRUCT ENVIRON, INSTRUMENTED SPACE POS RG (3 FPS-16/CAPRI), TENPEST, C3I SYS TEST INCL A REALISTIC EM BATTLEFIELD, ANTENNA PATTERN, ELECTRO-OPT AND VARIOUS ENVIRON FACILITIES INCL NVC, PERFORM RELIABILITY, AVAILABILITY AND MAINTAINABILITY (INCLUDE MAINT MANUALS, REPAIR PARTS, SPECIAL TOOLS), SAFETY AND HFE TEST, CONDUCT/PARTICIPATE IN RELATED DOCTRINAL AND CONCEPT STUDIES, AND TEST FOR ARMY, OTHER SERVICES AND DOD AGENCIES.

DIR. MR. MAX ADLER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	66.192	74.856
TOTAL PROCUREMENT	161.707	119.216
TOTAL O&M	13.056	6.794
TOTAL OTHER	0.143	0.149
TOTAL ANNUAL LAB	241.098	201.015
TOTAL INHOUSE	34.182	36.833
TOTAL INHOUSE RDT&E	24.443	29.941
ANNUAL OPERATING COST	3.000	3.300

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	63	0	6	57
CIVILIAN	412	8	207	205
TOTAL	475	8	213	262

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
6	163.877	26.617	37.314	227.808	6.078	46.085

...MISSION

RESEARCH, DEVELOPMENT, INITIAL ACQUISITION, AND FIRST FIELDING OF SELECTED ELECTRONIC WARFARE AND INTELLIGENCE MATERIAL.  
ELECTRONIC WARFARE INFORMATION SYSTEM (EWIS).  
EARLE-WAYSIDE TEST SITE.

...CURRENT IMPORTANT PROGRAMS

PROD OF SIGINT EQPT, E.G., QUICK LOOK AND GUARDRAIL.  
DEVELOP ECM AND WARNING EQPT FOR SELF PROTECTION OF COMBAT VEHICLE.  
EN VULN INVESTIGATIONS OF MISSILE SYS E.G., PATRIOT, ROLAND AND DIVAD.  
DEVELOPMENT, INITIAL ACQUISIT, FIRST FLDING EW AND RELATED INTL MATERIAL  
DEV EW SYS TO ENHANCE EFFECT AND SURVIV AIR DEFENSE ART UNITS E.G. ADEWS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ELECTRONIC INTELLIGENCE (ELINT) ANECHOIC CHAMBER.  
SIMULATED ECCM TECHNIQUE EVALUATOR.  
ELECTRO-OPTICAL COUNTERMEASURES (EOCM) SIMULATOR.  
EOCOM SIMULATOR.  
INFRARED MEASUREMENTS AND DATA REDUCTION FACILITY.  
BIG CROW.  
MOBILE ELECTRONIC WARFARE VULNERABILITY/ECCM TEST VAN.

**CDR/DIR. DR. C. G. THORNTON**
**TECH. DIR. MR. ROBERT G. LAUTTMAN**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	53.663	61.483
TOTAL PROCUREMENT	8.705	5.234
TOTAL O&M	0.694	0.817
TOTAL OTHER	0.000	0.000
TOTAL ANNUAL LAB	63.062	67.534
TOTAL INHOUSE	16.165	17.846
TOTAL INHOUSE RDT&E	13.562	16.010
ANNUAL OPERATING COST	3.959	4.607

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	0	0	0	0
CIVILIAN	278	32	169	109
TOTAL	278	32	169	109

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	81.399	31.837	6.558	119.794	0.000	13.000

**...MISSION**

TO DEV ESSENTL BASE IN ELECTRNCS TECH & DEVICES CONSISTNT WITH NEXT GENERATN ARMY SYS OPERATNL REQMTS. TO THIS END, AN ELECTRONCS-ORIENTED APPL R&D PROG IS PURSUED, FOCUSING ON CRITICL BARRIER DEVICES & MATRL PROBLMS THAT INHIBIT UPGRADING EXISTING & DEV NEW ARMY SYSTEMS.

**...CURRENT IMPORTANT PROGRAMS**

MMW DEVICES & PULSERS FOR TARGET LOC & IDENT THRU SMOKE & FOG  
 SIG PROC DEVICES TO PERMIT NONAMMABLE CONMO & DEEP BATTLFLD ASSMNT  
 PULSE POWER SOURCES FOR DIRECT BEAM WEAPONS & LASER DESIGNATORS  
 LIGHTWT, EFFICIENT PORTABLE POWER FOR DESIGNATORS, NV & C/E SYSTEMS  
 INTELLIGENT, INTERACTIVE TERMINALS & DISPLAY DEVICES FOR TACTICAL OPS

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

ADVANCED RESRCH FACIL'S SUCH AS MBE SYSTEM, LEBES E-BEAM LITHOGRAPHIC SYSTEM. ISS/SIMS, CADDA & AUGER ELECTRON SPECTROSCOPY ARE AVAIL FOR PERFORMING ON PREP, PROPERTIES & CONTRL OF ELEC MATERIALS & ON ELEC PARTS, DEVICES IC'S & ASSEMBLIES. AREAS OF LAB EXPERTISE INCL: COMPL DESIGN, FABRIC & TESTING OF IC'S, HYBRID CIRCUIT ASSEMBLIES, SEMICONDUCTOR DEVICES & CIRCUITS, SURFACE ACOUSTIC WAVE DEVICES, ELECTRON TUBES, DISPLAY DEVICES, PRIMARY, SECONDARY & SPEC PURPOSE PWR SOURCES, ELECTRO-CHEM RESEARCH CHARACTERIZATION OF ELEC MATERIALS. QUICK TURNAROUND CUSTOMIZED & FABRIC OF LSI ARRAYS ARE AVAIL TO CIRCUIT & SYSTEM DESIGNERS IN OTHER ARMY LABS. LAB ALSO PROVIDES ARMY CURTOMERS WITH EXPRT SERVICES INCL DIRECT R&D DEV, SUPPORT, CONSULTATION & DIRECT PARTICIPATION IN SYSTEM DEV.

CDR. DIR. COL. EDWARD K. WINTZ

TECH. DIR. MR. R. P. MACCHIA

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	36.726	45.188
TOTAL PROCUREMENT	0.000	3.114
TOTAL O&M	2.279	2.838
TOTAL OTHER	0.208	0.217
TOTAL ANNUAL LAB	39.213	51.357
TOTAL INHOUSE	12.679	15.297
TOTAL INHOUSE RDT&E	10.840	12.963
ANNUAL OPERATING COST	3.645	3.568

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	15	1	6	9
CIVILIAN	295	18	148	147
TOTAL	310	19	154	156

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
33	90.722	7.000	13.300	111.022	6.000	11.868

## ...MISSION

RESEARCH AND DEVELOPMENT IN TOPOGRAPHIC SCIENCES, MAPPING, POINT POSITIONING, AND MILITARY GEOGRAPHIC INFORMATION OPERATIONAL SUPPORT TERRAIN ANALYSIS, AND SCIENTIFIC/ADVISORY SERVICES, REMOTE SENSING, COMPUTER TECHNOLOGY, AND ENVIRONMENTAL EFFECTS DATA.

## ...CURRENT IMPORTANT PROGRAMS

SUPPORT TO PERSHING II  
DIGITAL TOPOGRAPHIC SUPPORT SYSTEM  
SUPPORT TO ARMY SPACE PROGRAM  
ARTIFICIAL INTELLIGENCE/ROBOTICS  
QUICK RESPONSE MULTICOLOR PRINTER, QRMP.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

FACILITIES INCLUDE A CARTOGRAPHIC LABORATORY TO STUDY THE PROBLEMS ASSOCIATED WITH HANDLING DIGITAL CARTOGRAPHIC DATA, A DIGITAL IMAGE PROCESSING LABORATORY TO STUDY THE MANIPULATION AND ENHANCEMENT OF TERRAIN IMAGERY FOR OBTAINING MAPPING AND GEOGRAPHIC DATA, COMPUTER ASSISTED PHOTO-INTERPRETATION STATION FOR EXPERIMENTAL EXTRACTION OF TERRAIN FEATURES, AND AN ARTIFICIAL INTELLIGENCE TEST BED FOR USE IN TERRAIN FEATURE EXTRACTION AND EXPLOITATION EXPERIMENTS. COMPUTATIONAL EQUIPMENT INCLUDES THE CDC CYBER 170/730, GOODYEAR STARAN S-1000, DEC PDP 1150 AND PDP 1170. OTHER SPECIALIZED EQUIPMENT INCLUDE A COMTAL, PDS DIGITAL AUTOMATED MICRODENSITOMETERS, A RECORDING OPTICAL SPECTRUM ANALYZER AND PRECISION MENSURATION EQUIPMENT.

**CDR. COL. TILFORD C. CREEL**
**TECH. DIR. MR. F. R. BROWN**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	20.708	23.920
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.529	0.550
TOTAL OTHER	50.676	51.060
TOTAL ANNUAL LAB	71.913	75.530
TOTAL INHOUSE	59.489	62.230
TOTAL INHOUSE RDT&E	18.692	21.210
ANNUAL OPERATING COST	7.399	8.982

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	21	0	21	0
CIVILIAN	1348	82	558	790
TOTAL	1369	82	579	790

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1407	1739.308	358.215	169.476	2266.999	29.052	56.254

**...MISSION**

MIL.&CIV FUNDED RSCH,DEV&INVES IN HYD,ECOLOGY,PERM&EXPEDIENT PAVEMENTS, SOIL,CONC.,EXPLO WPN EFF,EXPLO EXCAVATION,VEH MOBILITY & ENVIRONMENTAL ASPECTS OF MIL OPERATIONS. OPERATE TECH LIBRARY&GOVERNMENT CEMENT POZZO-LAN TEST PROGRAM. SERVES CE,DARCOM,DNA,AF,NAVY,DOE,EPA & OTHER AGENCIES.

**...CURRENT IMPORTANT PROGRAMS**

HYD&MATH MODELING TO SOLVE RIVER,TIDAL,WIND-WAVE,ECOLOGICAL&STRUC.PROBS. RSCH ON VEH MOBILITY,REMOTE SENSING,ENVIR IMPACT,&EARTHQUAKE DESGN CRIT. NUC&HE RSCH TO DEV CRIT FOR DESGN OF PROTECT.STRUC,BARRIERS&EXCAVATIONS. RSCH&DEV OF NEW&IMPROVED ENG DESGN CRIT FOR ROADS,STOR AREAS,&AIRFIELDS. RSCH&DEV OF CEMENTITIOUS MATLS AND RSCH OF MASS AND STRUCTURAL CONCRETE.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

CAPABLE OF PERF GEN INVEST IN FLD OF HYD,SOIL MECH,CONCRETE,MOBILITY OF MIL VEH,EXPLO EFF,ECOLOGY&EXPLO EXCAVATION AND DEV OF STRUCT & PAVEMENT DESIGN CRIT BY BASIC & APP RSCH; CAPABLE OF DEV METHODS&TECHNOLOGY FOR TESTING MATLS&EQUIP IN SUPPORT OF THE CE MISSION. WES RESERVATION CON-TAINS BLDGS,TEST SITES,SPECIAL AND OTHER PLANT SUPPORT EQUIP. TEST SITES &FAC FOR SPECIAL PURPOSES ARE MAINT IN OTHER AREAS ON PERM./TEMP BASIS. FAC. INCL. FLUMES OF DIFF TYPES&SIZES, WAVE&TIDE GENERATORS. WELL EQUIP-ED SOILS, CONC, CHEM, CALIB, ELEC&TEMP CONTROLLED ENVIRONMENTAL AND LYM-NOLOGICAL LABS, X-RAY DIFFRACTION & SPECTROSCOPY EQUIP, SMALL AND LARGE BLAST LOAD GENERATORS,200K DYNAMIC LOADER, MOBILITY RSCH FAC, SINGLE AND MULTIPLE WHEEL LOAD CARTS,SURFACE BLAST EFF FAC,HIGH&LOW FREQ VIBRATORS, ELECTRONBEAM MICROSCOPE, LARGE SCALE COMPUTER FAC AND TECH LIBRARY.

PRES. COL. C. S. NOBLES

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	1.553	2.065
TOTAL PROCUREMENT	0.213	0.006
TOTAL O&M	0.176	0.157
TOTAL OTHER	3.267	3.556
TOTAL ANNUAL LAB	5.209	5.784
 TOTAL INHOUSE	 5.209	 5.784
TOTAL INHOUSE RDT&E	1.553	2.065
ANNUAL OPERATING COST	0.325	0.325

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	143	1	35	108
CIVILIAN	37	0	4	33
TOTAL	180	1	39	141

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	24.472	35.340	17.720	77.532	0.000	3.047

...MISSION

PLAN CONDUCT AND REPORT ON OT I OT II AND OTHER USER-TYPE TESTS  
 PARTICIPATE IN DT I AND DT II AS DIRECTED  
 PROVIDE ADVICE TO PROPONENT AGENCIES AND DEVELOPERS  
 CONDUCT OTHER TESTS AND EVALUATIONS AS DIRECTED BY TRADOC

...CURRENT IMPORTANT PROGRAMS

OPERATIONAL TEST II MET DATA SYSTEM  
 OPERATIONAL TEST II TACFIRE VERSION V  
 OPERATIONAL TEST II M109A3 HELP PIP  
 OPERATIONAL TEST II FIRE SPT TEAM DIG MSG DEV  
 OPERATIONAL TEST IIA FIELD ARTY AMMO SPT VEH.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TWO MET STATIONS  
 TEST ITEMS ADDITIONAL SUPPORT IS OBTAINED FROM USAFACFS WHEN NEEDED

CDR. COL. M. G. SWINDLER

DEP. DIR. MR. D. ADAMS

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	38.181	40.125
TOTAL PROCUREMENT	41.311	44.850
TOTAL O&M	10.263	8.750
TOTAL OTHER	0.000	0.000
TOTAL ANNUAL LAB	89.755	93.725
 TOTAL INHOUSE	 73.938	 77.375
TOTAL INHOUSE RDT&E	26.760	28.025
ANNUAL OPERATING COST	18.200	20.000

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	14	0	10	4
CIVILIAN	613	24	395	218
TOTAL	627	24	405	222

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
6	167.247	103.974	4.576	275.797	8.305	26.060

## ...MISSION

ACCOMPLISH EXPLORATORY RESEARCH, ADVANCED AND ENGINEERING DEVELOPMENT LIFE CYCLE TECH RESPONSIBILITY FOR FIRE CONTROL AND ALL WEAPON SYSTEMS, AMMUNITION, AUXILIARY ITEMS THROUGH 40MM CAL. FIRE CONTROL INCLUDES ALL COMBAT VEHICLES, FIELD ARTILLERY, HELICOPTERS, AIR DEFENSE AND INFANTRY.

## ...CURRENT IMPORTANT PROGRAMS

JOINT SERVICES SMALL ARMS PROGRAM  
SQUAD AUTOMATIC WEAPON SYSTEM  
M231 PORT FIRING WEAPON  
SGT YORK AIR DEFENSE GUN SYSTEM

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

LABORATORY CONDUCTS RESEARCH/EXPLORATORY, ADVANCED AND ENGINEERING DEVELOPMENT IN SMALL CALIBER WEAPON SYSTEMS AND FIRE CONTROL SYSTEMS. IT MAINTAINS TEST BED FACILITIES TO EVALUATE SYSTEMS IN AREAS OF FIRE CONTROL, AIR DEFENSE AND COMBAT VEHICLES. LAB HAS CAPABILITY FOR DESIGN AND EVALUATION OF OPTICAL, ELECTRO-OPTICAL AND ELECTROMAGNETIC SYSTEMS, SIGHTING DEVICES, DIGITAL AND ANALOG SIGNAL PROCESSORS, GUN/TURRET STABILIZATION AND CONTROL SYSTEMS, SMALL CALIBER WEAPONS INCLUDING AUTOMATIC CANNONS, WEAPON MECHANISMS, MOUNTS, PROJECTILES, PENETRATORS, SHAPED CHARGE LINERS, PROPELLANTS, PRIMERS, CARTRIDGE CASES, METAL AND PLASTIC MATERIALS AND ADHESIVES, AND MANUFACTURING TECHNOLOGY. JOINT SERVICE SMALL ARMS PROGRAM HAS RESPONSIBILITY FOR ALL SMALL ARMS CONVENTIONAL AND SPECIAL WEAPONS SYSTEMS FOR ALL USERS.

CDR. COL. A. R. BURKE

TECH. DIR. DR. W. W. CARTER

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	65.216	62.466
TOTAL PROCUREMENT	46.562	41.302
TOTAL O&M	6.772	3.483
TOTAL OTHER	5.418	7.970
TOTAL ANNUAL LAB	123.968	115.221
 TOTAL INHOUSE	 51.603	 52.367
TOTAL INHOUSE RDT&E	35.086	36.494
ANNUAL OPERATING COST	14.297	15.414

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	5	0	5	0
CIVILIAN	1188	47	535	653
TOTAL	1193	47	540	653

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
2316	509.785	113.201	1216.450	1839.436	52.777	46.687

## ...MISSION

ELECTRONIC FUZES, NUCLEAR WEAPONS EFFECTS TECHNOLOGY, SPECIAL RADAR TECH'Y AND SYSTEMS, ELECTRONICS TECH'Y, COMPONENTS, CIRCUITS AND MATERIALS, FLUIDIC COMPONENTS AND SYSTEMS, ELECTRO-OPTICAL DEVICES. SELECTED INSTRUMENTATION/SIMULATORS, COUNTERMEASURES (CM) AND COUNTER-CM

## ...CURRENT IMPORTANT PROGRAMS

DEV OF XM818E1 FUZE FOR PATRIOT MISSILE  
R&D ON FLUIDICS, ORDNANCE ELECTRONICS, NUCLEAR WEAPONS EFFECTS AND NMMW  
DEV OF XM445 FUZE FOR MLRS, HIGH POWER MICROWAVE TECH  
DEV OF XM749/M735 FUZES FOR 155MM/8 IN NUCLEAR ART'Y  
DEV OF ART'Y DELIVERED EXPENDABLE JAMMERS; INSTALLATION SECURITY RADAR

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

NUCLEAR FACILITIES, GAMMA RAY SIMULATOR (AURORA), HIGH INTENSITY FLASH X-RAY (HIFX), COBALT 60, AND ELECTROMAGNETIC PULSE SIMULATORS.  
ELECTRONIC DESIGN FACILITIES: THICK FILM HYBRID CIRCUIT FACILITIES, MICROWAVE ANECHOIC CHAMBER  
FUZING FACILITIES, ARTILLERY SIMULATOR, ENVIRONMENTAL TESTING, BLOSSOM POINT TEST AREA



DIR. DR. JOHN D. WEISZ

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	12.960	15.599
TOTAL PROCUREMENT	0.244	0.050
TOTAL O&M	0.353	0.300
TOTAL OTHER	0.414	0.438
TOTAL ANNUAL LAB	13.971	16.387
TOTAL INHOUSE	10.138	12.287
TOTAL INHOUSE RDT&E	9.127	11.499
ANNUAL OPERATING COST	2.831	2.919

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	33	1	12	21
CIVILIAN	147	18	107	40
TOTAL	180	19	119	61

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
72	111.524	7.056	21.400	139.980	8.112	8.776

...MISSION

CONDUCTS FUNDAMENTAL AND APPLIED RESEARCH IN HUMAN FACTORS ENGINEERING PROVIDES DIRECT DESIGN SUPPORT TO ALL MATERIEL DEVELOPMENT PROGRAMS SPONSORED BY DARCOM. EIGHTEEN DETACHMENTS AND/OR LIAISON REPRESENTATIVES HAVE BEEN ESTABLISHED AT DARCOM COMMANDS, CRTC AND TRADOC CTRS/SCHOOLS.

...CURRENT IMPORTANT PROGRAMS

ROBOTICS-AUTOMATION  
INDIVIDUAL SOLDIER PROTECTIVE CLOTHING/EQUIPMENT  
BATTLEFIELD ROBOTIC AMMUNITION SUPPLY SYSTEM  
COMMAND CONTROL COMMUNICATIONS  
FIRE CONTROL RESEARCH.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

COMMAND POST EXERCISE FACILITY  
ACE COMPUTER FACILITY  
FIRE CONTROL RESEARCH FACILITY  
DATA ACQUISITION AND BIOTELEMETRY SYSTEM  
GAT 2M HELICOPTER SIMULATOR  
ACOUSTICAL AND ANECHOIC CHAMBER REVERBERANT ROOM  
HELFAST LOGISTICS TESTING FACILITIES  
EYE MOVEMENT MEASURING DEVICE  
SMALL ARMS TEST FIRING RANGE  
WOOD AND METAL WORKING TEST SUPPORT CAPABILITY  
HUMAN FACTORS DATA BANK  
COMMAND CONTROL SIMULATOR SYSTEM

CDR. COL. RICHARD A. HUMPHREY

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.010	2.157
TOTAL PROCUREMENT	0.191	0.165
TOTAL O&M	0.126	0.339
TOTAL OTHER	2.280	2.650
TOTAL ANNUAL LAB	4.607	5.311
TOTAL INHOUSE	4.607	5.311
TOTAL INHOUSE RDT&E	2.010	2.157
ANNUAL OPERATING COST	1.258	1.564

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	124	0	2	122
CIVILIAN	57	0	8	49
TOTAL	181	0	10	171

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	0.000	32.203	32.885	65.088	3.000	1.025

## ...MISSION

PLAN CONDUCT REPORT ON OPERATIONAL TESTS 1/2/3. FORCE DEVELOPMENT TESTS  
OTHER TESTS OF EQUIPMENT & ANCILLARY ITEMS TO BE USED BY INFANTRY UNITS  
FOR COMMAND, CONTROL, FIREPOWER, TARGET ACQUISITION, GROUND SURVEIL-  
LANCE, FIRE CONTROL GROUND MOBILITY & TNG & CHEMICAL/BIOLOGICAL EQUIP.

## ...CURRENT IMPORTANT PROGRAMS

LIGHT MOTORIZED INFANTRY BATTALION  
LIGHT ATTACK BATTALION  
ASSAULT GUN BATTALION  
EXTENDED COLD/WET WEATHER CLOTHING SYSTEM  
MINIMUM CHANGE/MINIMUM RISK PROTECTIVE MASK.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

AUTOMATED, COMPUTERIZED AUTOMATIC & SMALL ARMS WEAPONS RANGE  
CLOTHING & EQUIPMENT TEST FACILITY  
MANNED EVASIVE TARGET TANKS  
NOVA 312 COMPUTER CAPABILITIES.

CDR. COL. THOMAS P. SWEENEY DEP. FOR RSCH. DR. GINO BATTISTONE

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.805	3.586
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.150	0.140
TOTAL OTHER	1.635	3.033
TOTAL ANNUAL LAB	4.590	6.759
TOTAL INHOUSE	3.259	4.868
TOTAL INHOUSE RDT&E	1.474	1.795
ANNUAL OPERATING COST	0.876	0.878

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	82	0	61	21
CIVILIAN	26	2	10	16
TOTAL	108	2	71	37

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
4	9.852	5.696	14.153	29.701	2.548	2.593

## ...MISSION

DEVELOP TECHNIQUES TO TREAT WAR RELATED MAXILLOFACIAL INJURIES AND DENTAL DISEASES. PREVENTION AND CONTROL OF DENTAL DISEASE. TO PROVIDE DENTAL RESIDENCY PROGRAMS. TO PROVIDE A DENTAL CLINIC FOR RESEARCH AND TRAINING.

## ...CURRENT IMPORTANT PROGRAMS

BIODEGRADABLE MATERIALS FOR LONG TERM SLOW RELEASE AND ORGAN REPLACEMENT  
 USE OF SALIVA FOR DETECTING EXPOSURE TO CHEMICAL AGENTS IN THE FIELD  
 R&D OF NEW AND IMPROVED DENTAL MATERIALS FOR MILITARY USE WORLD-WIDE  
 STUDIES ON METHODS OF IMPROVING COMBAT CONTAMINATED WOUND HEALING  
 STUDIES FOR IMPROVING METHODS OF CONTROLLING INFECTIONS IN COMBAT WOUNDS

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST AND EVALUATE THE PHYSICAL, CHEMICAL AND MECHANICAL PROPERTIES OF DENTAL METALS, ALLOYS, PLASTICS AND POLYMERS. EVALUATE CHANGES DUE TO ENVIRONMENT AND TRANSPORTATION. CONDUCT RESEARCH IN MICROBIOLOGY, CHEMISTRY, BIOCHEMISTRY, IMMUNOLOGY, RADIATION EFFECTS, PHARMACOLOGY, PHYSIOLOGY, HISTOLOGY AND PATHOLOGY AS THEY RELATE TO DENTAL MILITARY RSCH  
 CONDUCT EPIDEMIOLOGICAL STUDIES ON TRAUMA, DISEASE, MAN MACHINE INTER FACE TRAUMA AND FIELD DENTAL EMERGENCIES. STUDY MEANS OF PREVENTING ORAL DISEASE. STUDY THE PSYCHOLOGY OF DENTAL TREATMENT ACCEPTANCE. STUDY NEW MATERIALS AND METHODS MORE CLINICALLY EFFECTIVE IN THE FIELD. DEVELOP AND EVALUATE NEW TECHNIQUES AND NEW MATERIALS TO TREAT COMBAT WOUNDS AND TO TEST THESE IN VARIOUS BIOLOGIC MEDIA. DISSEMINATE AS PRACTICAL ALL INFORMATION TO THE FIELD.

CDR. COL. BASIL A. PRUITT

TECH. DIR. DR. ARTHUR D. MASON, JR

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	4.858	4.486
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	3.693	4.040
TOTAL ANNUAL LAB	8.551	8.526
TOTAL INHOUSE	8.279	8.264
TOTAL INHOUSE RDT&E	4.586	4.224
ANNUAL OPERATING COST	1.196	1.860

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	152	16	58	94
CIVILIAN	81	4	31	50
TOTAL	233	20	89	144

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	26.424	1.800	22.400	50.624	2.313	4.252

...MISSION

CONDUCTS BASIC & CLINICAL RSCH ON SEVERE BURN INJURIES & THEIR COMPLCTNS  
 PROVIDES TREATMENT FOR BURNED PATIENTS & TRAINS SPECIFIED PERS IN THE  
 TOTAL MANGEMENT OF SUCH PATIENTS.  
 OPERATES 30 BEDS FOR HOSPITALIZATION OF SERIOUSLY INJURED BURN PATIENTS

...CURRENT IMPORTANT PROGRAMS

BURN INFECTION, TREATMENT AND PREVENTION  
 METABOLISM AND NUTRITIONAL EFFECTS OF BURN INJURY IN SOLDIERS  
 INFECTION AND MICROBIOLOGIC SURVEILLANCE OF TROOPS WITH THERMAL INJURY  
 ALTERATION OF HOST RESISTANCE IN BURNED SOLDIERS  
 ASSESSMENT OF L-TRIiodothyronine THERAPY IN THERMALLY INJURED PATIENTS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

OPERATES 30 BEDS FOR SERIOUSLY BURNED & INJURED PATIENTS. PROVIDES CLIN-  
 ICAL LABRATORY SUPPORT & RSCH CAPABILITIES IN THE FIELDS OF PATHOLOGY  
 (INCLUDING USE OF ELECTRON MICROSCOPE) MICROBIOLOGY, EXPERIMENTAL SURGERY  
 AND BICCHEMISTRY. MAINTAINS AN ANIMAL COLONY, ELECTRONIC SHOP, MACHINE  
 SHOP SURGICAL LIBRARY & METABOLIC CHAMBER.

PRES. COL. JOHN F. PHELPS

TECH. DIR. MR. PHILLIP E. WRALSTAD

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	3.721	2.970
TOTAL PROCUREMENT	0.920	0.400
TOTAL O&M	1.026	0.200
TOTAL OTHER	0.000	0.000
TOTAL ANNUAL LAB	5.667	3.570
TOTAL INHOUSE	1.796	1.288
TOTAL INHOUSE RDT&E	1.488	1.188
ANNUAL OPERATING COST	0.695	0.740

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	99	0	24	75
CIVILIAN	24	2	12	12
TOTAL	123	2	36	87

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
10	4.000	6.627	21.667	32.294	0.616	4.890

## ...MISSION

PLAN, CONDUCT AND REPORT ON OT I, II, III AND OTHER USER TYPE TESTS OF TACTICAL INTEL + SECURITY MATERIAL. PARTICIPATE IN DT I, II + III TESTS AS DIRECTED. CONDUCT VULNERABILITY + OTHER CUSTOMER TESTS AS DIRECTED.

## ...CURRENT IMPORTANT PROGRAMS

TECHNICAL CONTROL + ANALYSIS CENTER TCAC(D)  
 DECENTRALIZED AUTOMATED SERVICE SPT SYS (DAS3B)  
 ISO CONFIGURED TWO SIDED SHELTER  
 ARTILLERY DELIVERED EXPENDABLE ECM DEVICE  
 COUNTERMEASURES SYS SPECIAL PURPOSE QUICK FIX II

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

EW MONITORING FAC: TRANSPORTABLE 30 FT VAN; RECEIVE 10KHZ TO 40GHZ; DF 20 MHZ TO 40GHZ; TAPE RECORDERS, SPECTRUM ANALYZERS AND OSCILLOSCOPES.  
 ANALYSIS EQP. VULNERABILITY MOBILE TRANSMITTER "A" VAN: TRANSPORTABLE 40 FT VAN; RECEIVE 900KHZ TO 1GHZ; JAM 10KHZ TO 1GHZ WITH 1000W TRANSMITTERS;  
 ANALYSIS EQP. VULNERABILITY MOBILE TRANSMITTER "B" VAN: TRANSPORTABLE 40 FT VAN; RECEIVE 1GHZ TO 40GHZ; JAM 1GHZ TO 40GHZ WITH 200W TRANSMITTERS;  
 ANALYSIS EQP. NON-COMM EMITTER SIMULATOR: 8.5 TO 17.0GHZ; 200W OUTPUT  
 SIMULATING 20 THREAT RADARS; COMPUTER CONTROL VIA DATA LINK; TRANSPORTABLE  
 ; REPROGRAMABLE. COMM EMITTER SIMULATOR: 2 TO 500MHZ; 20W OUTPUT SIMULATING  
 50 THREAT COMM TYPES; CONTROL THRU SYS MICROPROCESSOR, RECORDER OR DATA  
 LINK; TRANSPORTABLE; REPROGRAMABLE. OPERATIONAL TEST CONTROL CENTER: BLDG  
 WILL HOUSE REALTIME RANGE CONTROL SYS FAC AND DATA PROCESSING.

**INSTALLATION: KWAJALEIN MISSILE RANGE, MARSHALL ISLANDS APO SAN FRANCISCO****DIR. COL. W. A. SPIN****DEP. DIR. MR. H. R. BRASWELL****PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	161.083	182.910
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	4.790	1.575
TOTAL ANNUAL LAB	165.873	184.485
TOTAL INHOUSE	7.346	7.905
TOTAL INHOUSE RDT&E	5.906	6.330
ANNUAL OPERATING COST	0.572	0.690

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	27	1	19	8
CIVILIAN	103	1	62	41
TOTAL	130	2	81	49

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1361	0.000	202.626	2185.624	2388.250	237.550	230.392

**...MISSION**

PLAN, MANAGE, DIRECT CONTROL AND COORDINATE OVERALL ACTIVITIES OF THE KMR IN ACCORDANCE WITH DOD NATIONAL RANGE POLICIES. SERVE AS THE PRINCIPAL ADVISOR FOR ALL MATTERS PERTAINING TO THE KMR RELATIONSHIPS WITH THE TRUST TERRITORY OF THE PACIFIC ISLANDS/REPUBLIC OF THE MARSHALL ISLANDS.

**...CURRENT IMPORTANT PROGRAMS**

BALLISTIC MISSILE DEFENSE R&D TESTING  
 USAF BMD ADVANCED BALLISTIC REENTRY SYSTEMS R&D TESTING  
 MINUTEMAN II AND MINUTEMAN III USAF SAC OPERATIONAL TESTING  
 SPACE OBJECT IDENTIFICATION USAF SPACE TRACK  
 SPACE DETECTION AND TRACKING SYSTEM USAF SPACE TRACK

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

ALCOR, TRADEX, ALTAIR, MILLIMETER WAVE INSTRUMENTATION RADAR, MULTISTATIC MEASUREMENT SYS, KREMS TO CONUS HIGH SPEED DATA LINK, 2AN/MPS 36, AN/TPQ 18 AN TPX 42, 2 SPLASH DETECTION RADARS, 4 RADOTS, 6 SUPER RADOTS 8 BALLISTIC CAMERAS, SPECTRAL CAMERAS, PHOTO LAB, S-BAND TELEMETRY RECEIVING SYS INCL 8 AUTO TRACK ANTENNAS, 1 RELAY SYS, RECEIVE & RECORD SYS, DATA SEPARATION AND DISPLAY SYS & DATA DISTRIB SYS, LONG HAUL & INTRA ATOLL COMMO SYS, METEOROLOGICAL SYS, LAUNCH ORDNANCE FAC, TIMING & COUNTDOWN SYS, FREQUENCY CONTROL & ANALYSIS SYS, 7600/6400 INSTRUMENTATION CONTROL CTR, AIR TRAFFIC CONTROL SYS INCL TACAN LOW FREQ HOMING BEACON & AC COMMUNICATIONS, CLOSED CIRCUIT TV SYS, DATA REDUCTION FAC & INSTRUMENTATION SYS ACCURACY ANALYSIS CAPABILITY, GROUND PORTION OF FLIGHT TERMINATION & CONTROL SYS & RANGE SAFETY SYS.

CDR. COL. J. E. BROWN

TECH. DIR. DR. J. T. FRASIER

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	125.284	115.660
TOTAL PROCUREMENT	65.905	61.610
TOTAL O&M	10.300	8.050
TOTAL OTHER	0.000	0.000
TOTAL ANNUAL LAB	201.489	185.320
 TOTAL INHOUSE	 125.995	 117.550
TOTAL INHOUSE RDT&E	64.369	59.600
ANNUAL OPERATING COST	21.568	21.775

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	27	0	5	22
CIVILIAN	1704	82	1094	610
TOTAL	1731	82	1099	632

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
11	189.951	219.627	50.343	459.921	17.732	27.272

## ...MISSION

MAINTAIN A STRONG BASIC AND EXPLORATORY TECHNOLOGY BASE. DES AND RES WPNS SYS-GUN/AMMO, LARGER THAN 40MM FOR TANKS, ARTY, MORTAR, RECOILLESS GUNS, AIR DEFENSE, MINES AND DEMO SYS, EXPLOS AND WHDS. ENG SPT DURING PROCUREMENT, PRODUCTION AND FIELD USE. PREVENT TECHNOLOGICAL SURPRISE.

## ...CURRENT IMPORTANT PROGRAMS

SPT PM-CAWS DSWs, M509 AND M483 PROJ, M692 ADAM, XM718 RAM  
 SPT PM-TANK MAIN 120MM AMMO/GUN  
 SPT PM-NUCL PERSHING 2, XM785, XM753 8 INCH PROJ, XM266  
 SCATTERABLE MINE SYSTEMS-MOPMS, GEMMS, GRATMS AND VOLCANO  
 ARTILLERY-GUN PROPULSION INCL EM, CHG DSG, REDUCED WEAR & EROSION, & SADARM

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

DEVELOP NEW ITEMS. THE IGNITION RHEOLOGY AND COMBUSTION LAB WAS ACCEPTED AND IS OPERATIONAL. THE NEW ENERGETICS LAB WAS COMPLETED, ACCEPTED AND IS OPERATIONAL. FACILITIES AND EQUIPMENT RESOURCES ARE CONTAINED IN COMPLEX OF ENG AND LAB BLDGS.  
 15 ADMIN BLDGS, 32 LAB BLDGS, AND 47 STORAGE BLDGS.

CDR. COL. THOMAS F. ZUCK

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	12.494	11.590
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.214	0.225
TOTAL OTHER	3.959	4.449
TOTAL ANNUAL LAB	16.667	16.264
TOTAL INHOUSE	11.386	12.360
TOTAL INHOUSE RDT&E	7.213	7.686
ANNUAL OPERATING COST	3.795	3.985

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	159	32	99	60
CIVILIAN	108	14	49	59
TOTAL	267	46	148	119

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
9	223.000	50.000	60.000	333.000	42.680	10.240

## ...MISSION

CONDUCTS MED RSCH IN: BIOEFFECTS OF & EYE PROTECTION AGAINST LASERS;  
BLOOD PRESERVATION; BLOOD SUBSTITUTES; RESUSCITATION METHODS FOR USE IN  
FORWARD AREAS; DERMAL PROTECTION FROM CHEM AGENT & VECTOR BORNE DISEASE;  
MAMMALIAN & IN VITRO TOXICOLOGY; FORWARD AREA CASUALTY CARE.

## ...CURRENT IMPORTANT PROGRAMS

DETERMINATION OF SAFE THRESHOLDS OF COHERANT RADIATION  
RESUSCITATION SOLUTIONS FOR USE FORWARD OF DEFINITIVE MED CARE  
ACUTE & CHRONIC MAMMALIAN & IN VITRO TOXICOLOGY  
CUTANEOUS PROTECTION AGAINST HAZARDS IN A COMBAT ENVIRONMENT  
FORWARD CARE OF TRAUMATIC SHOCK & HIGH VELOCITY MISSILE INJURIES

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

VARIOUS WAVE LENGTH LASERS, SIMULATED TERRAIN MODEL FOR EVALUATING OPER-  
ATOR PERFORMANCE FOLLOWING SIMULATED LASER EXPOSURE, CONVENTIONAL BLOOD  
STORAGE, SEPERATION & ANALYSIS LABS TO INCLUDE MASS SPECTROMETRY, GAS AND  
HI PERFORMANCE LIQUID CHROMATOGRAPHY, SURGICAL SUITES WITH ON-LINE MULTI-  
CHANNEL PHYSIOLOGIC MONITORS, GERM FREE & OPEN ANIMAL FACILITIES HOUSING  
MANY SPECIES FR NUDE MICE TO SUB-HUMAN PRIMATES; COMPUTERS FOR ADMIN &  
TECH/SCIENTIFIC DATA ANALYSIS, GEN RSCH LABS FULLY EQUIPPED WITH SPECTRO-  
METERS, GAMMA & SCINTILLATION COUNTERS, TRANSMISSION, SCANNING & ELECTRON  
MICROSCOPES, COLD ROOM FOR FRACTIONATION, AND THE LIKE.



DIR. DR. E. S. WRIGHT

DEP. DIR./CDR. COL. G. SIBERT

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	37.718	26.336
TOTAL PROCUREMENT	1.266	2.537
TOTAL O&M	4.584	5.343
TOTAL OTHER	0.000	0.077
TOTAL ANNUAL LAB	43.568	34.293
TOTAL INHOUSE	23.117	19.613
TOTAL INHOUSE RDT&E	19.000	14.878
ANNUAL OPERATING COST	6.240	8.200

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	17	1	11	6
CIVILIAN	598	67	256	342
TOTAL	615	68	267	348

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
48	381.778	88.261	172.648	642.687	14.885	22.055

...MISSION

MANAGE THE DARCOM STRUCTURAL MATERIALS & MECHANICS PROGRAM AS LEAD LAB FOR MATERIALS, MECHANICS & MATERIALS TESTING TECHNOLOGY. CONDUCT RSCH AT THE FOREFRONT OF TECHNOLOGY TO PROVIDE THE ADVANCED MATERIALS REQUIRED FOR PRESENT & FUTURE ARMY WEAPONS SYSTEMS AT REASONABLE COSTS.

...CURRENT IMPORTANT PROGRAMS

METAL AND ORGANIC MATRIX COMPOSITES FOR LIGHTWEIGHT MATERIEL APPLICATION ADVANCED ARMOR AND ARMOR PENETRATOR MATERIALS INCLUDING LASER HARDENING STRUCTURAL INTEGRITY, NDT, & LIFE PREDICTION/RELIABILITY MECHANICS. CERAMICS FOR ELECTRO-OPTICAL, ENGINE, AND GUN TUBE APPLICATIONS MATERIALS. PROCESSING AND CHARACTERIZATION: METALS ORGANICS AND CERAMICS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

THE CENTER POSSESSES THE IN-HOUSE EXPERTISE & FACILITIES TO PERFORM R&D PROJECTS RANGING FROM THE SYNTHESIS OF NEW & IMPROVED MATERIALS & DESIGNS TO THE PROTOTYPE MANUFACTURE OF COMPONENTS FOR ARMY WEAPONS SYSTEMS. METALS PROCESSING EQUIPMENT INCLUDES CASTING, FORGING, ROLLING, HEAT TREATING, JOINING, PLATING, ISOSTATIC PRESSING, VACUUM ARC MELTING, & MACHINING. CERAMIC PROCESSING EQUIPMENT SLIP CASTING, HOT PRESSING, SINTERING & GRADIENT FURNACE CRYSTAL GROWTH. POLYMER/COMPOSIT PROCESSING EQUIPMENT, INJECTION MOLDING, LAMINATING, TAPE LAYUP, VACUUM FORMING, FILM FORMING AND ORIENTATION, FILAMENT WINDING, PULTRUSION, FOAM PROCESSING AND PILOT POLYMER PRODUCTION. QC AND NDT EQUIPMENT: ULTRASONICS, XRAY AND NEUTRON RADIOGRAPHY, SPECTROSCOPY, HOLOGRAPHY, CHEMICAL ANALYSIS, METALLOGRAPHY AND OPTICS. OTHER: U AND BE MACHINING, BALLISTIC RANGE AND POWDER CHARACTERIZATION.

DIR. MR. KEITH A. MYERS

DEP. DIR. COL. ROBERT M. CLEWELL

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	21.885	22.186
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	4.457	5.395
TOTAL OTHER	0.626	0.634
TOTAL ANNUAL LAB	26.968	28.215
 TOTAL INHOUSE	 15.929	 16.939
TOTAL INHOUSE RDT&E	12.924	13.133
ANNUAL OPERATING COST	2.920	3.080

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	31	0	11	20
CIVILIAN	449	23	347	102
TOTAL	480	23	358	122

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
4	8.140	100.276	1.715	110.131	2.070	1.239

## ...MISSION

PROVIDES THE CENTRAL INDEPENDENT TECHNICAL CAPABILITY FOR DARCOM FOR THE CONDUCT OF MAJOR SYSTEMS ANALYSIS AND COST EFFECTIVENESS STUDIES, SERVES AS DARCOM LEAD ACTIVITY FOR SURVIVABILITY AND RELIABILITY, AVAILABILITY AND MAINTAINABILITY METHODOLOGY.

## ...CURRENT IMPORTANT PROGRAMS

TEST DESIGN AND EVAL OF STINGER, PATRIOT, DIVAD, HELLFIRE, AND BLACKHAWK DEVELOP PERFORMANCE/EFFECTIVENESS EVALUATIONS FOR AIR DEFENSE AVIATION, ARTILLERY, ARMORED, BARRIER, INFANTRY AND AIR DEFENSE STUDY EFFECTIVENESS AND SURVIVABILITY OF PATRIOT, DIVAD AND HELLFIRE PREPARE AIR-TO-SURFACE, SURFACE-TO-SURFACE AND ANTI-AIR WPNS EFF MANUALS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

AMSAA MISSION CAPABILITIES INCLUDE PERFORMING INDEPENDENT TEST, DESIGN AND OVERALL EVALUATION FOR DECISIONS ON MAJOR, DESIGNATED NON-MAJOR AND SELECTED OTHER SYSTEMS. PROVIDING OVERVIEW OF LIFE CYCLE SURVEILLANCE PROGRAMS FOR MATERIEL SYSTEMS IN INVENTORY; PROVIDING WEAPONS SYSTEM EFFECTIVENESS ESTIMATES FOR COST AND OPERATIONAL EFFECTIVENESS ANALYSES; PROVIDING SYSTEMS ANALYSIS SUPPORT TO DARCOM MAJOR SUBORDINATE COMMANDS AND PROJECT/PRODUCT MANAGERS; MAINTAINING DIRECT CONTACT WITH ARMY MATERIEL USERS IN THE FIELD; SERVING AS THE DARCOM FIELD ACTIVITY FOR ADMINISTERING THE JOINT TECHNICAL COORDINATING GROUP FOR MUNITIONS EFFECTIVENESS, JTCG/ME, AND PERFORMING LOGISTICS AND READINESS RELATED ANALYSIS.

CDR. COL. CHARLES W. BINNEY

ASSOC. DIR. MR. DONALD RESCH

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	55.063	53.514
TOTAL PROCUREMENT	35.447	44.322
TOTAL O&M	3.404	3.426
TOTAL OTHER	8.821	6.980
TOTAL ANNUAL LAB	102.735	108.242
TOTAL INHOUSE	97.232	102.648
TOTAL INHOUSE RDT&E	50.785	49.356
ANNUAL OPERATING COST	30.176	33.181

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	215	0	38	177
CIVILIAN	847	7	264	583
TOTAL	1062	7	302	760

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
22865	720.999	4.351	242.761	968.111	19.220	40.786

## ...MISSION

PLAN CDT AND RPT TESTS OF WFNS, WPN SYSTEM, RKTS, GM SYS FIRE CON, AND TGT ACQ EQUIP, ITEMS OF AMMO AND MUN COMPONENTS, CBT VEHS, OTHER AUTO EQUIP. PROV CTR SVCS FOR PROC OF ARMOR PLATE FOR ALL DARCOM INSTLS AND ACTIVITIES. PROV SUPPORT SVCS TO APG ELEMENTS AND SUPPORT COMMANDS.

## ...CURRENT IMPORTANT PROGRAMS

M1 TANK SYSTEM INCL VULNERABILITY  
 120MM GUN/AMMO PROGRAM BRADLEY FIGHTING VEHICLE SYSTEM SGT YORK  
 M1E1 TANK SYSTEM INCL VULNERABILITY  
 HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV)  
 HEAVY MOBILITY TACTICAL TRUCK (HEVMTT).

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST AREA 68700 ACRES RANGE TO LAND IMPACT. 26000M RANGE TO WATER IMPACT  
 41 MILES OF AUTMV CRS INCL 27 SP ENGR TEST CRS AND OBSTAC. VARIETY  
 OF ENVIR OR COND EQUIP. SP CHAMBERS F/SUBJECTING EQUIP TO DUST, SALT  
 SPRAY OR SOLAR RADN. ISOLATED VIBRATION TEST FAC WHICH PERMITS SHAKING  
 EXPLO EQUIP SIMULTANEOUSLY W/TEMP CONDITIONING FAC. F/CONTROLLED TESTS  
 OF ELEC CON AND GUIDANCE EQUIP. FREQ SOURCE WHICH PERMITS TESTING ALL  
 TYPES OF MAT IN PRESENCE OF A HIGH INTENSITY ELEC MAGNETIC RADN. SP FAC  
 F/TEST OF ARMOR PLATE. SP VEL AND TGT EQUIP IS AVAIL F/OBSERVATIONS  
 DURING RAPID FIRE AS IS RKT TRACK F/CONTROLLED TERMINAL BALLISTIC TESTS.  
 FAC AVAIL F/TESTS OF SP ELECTRONICS AND FIRE CON EQUIP AND RELATED SYS  
 AND COMPONENTS. PULSE RADIATION FAC AVAIL F/USE IN RADIATION TESTING  
 NUCLEAR EFFECTS. SIMULATION REACTOR TECHNOLOGY AND RADIATION PHYSICS.

CDR. COL. JOHN N. ALBERTSON JR

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	11.587	14.319
TOTAL PROCUREMENT	0.271	0.000
TOTAL O&M	0.353	0.000
TOTAL OTHER	1.299	1.092
TOTAL ANNUAL LAB	13.510	15.411
TOTAL INHOUSE	6.210	6.367
TOTAL INHOUSE RDT&E	5.015	5.275
ANNUAL OPERATING COST	2.156	2.291

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	34	4	21	13
CIVILIAN	101	15	48	53
TOTAL	135	19	69	66

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
5	45.103	27.300	34.108	106.511	3.588	3.490

## ...MISSION

CONDUCTS ENG RSCH & DEVELOPMENT OF MILITARY MEDICAL EQUIPMENT.  
 CONDUCTS THE SURGEON GENERAL'S RDT&E PROGRAM IN INTEGRATED PEST MGMT  
 CONDUCTS ENVIRO OCCUPATIONAL HLTH BASIC & APPLIED RSCH ON CHEMICALS  
 CONDUCTS LIFE CYCLE SYSTEM MGT OF MED,DENTAL & PEST MGT MATERIALS

## ...CURRENT IMPORTANT PROGRAMS

DEVELOPMENT OF FIELD MEDICAL DEVICES AND EQUIPMENT.  
 PEST MGT RDT&E INCLUDING METHODS,MATERIALS,EQUIP AND CONCEPTS  
 DEVELOPMENT OF MEDICAL EQUIPMENT FOR CHEMICAL DEFENSE.  
 OCCUPATIONAL HLTH RSCH: SMOKE OBSC WEAPON SYS,SYN FUEL,FLD SAN & WATER  
 DEVELOP ENVIRO QLTY & OCCUP HLTH CRITERIA ON MIL CHEMICALS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

DESIGN,DEVELOP & FABRICATE PROTOTYPE & TEST MODELS OF MIL MED MAT  
 PRODUCE LIMITED QUANTITIES OF MED MAT FOR URGENT MIL REQ  
 DESIGN,DEVELOP & FABRICATE PEST MGT EQUIP AND SYSTEMS  
 DESIGN,DEVELOP & FABRICATE PROTOTYPE AND TEST MODELS OF MIL DENTAL MAT  
 PERFORM HLTH AND ECOLOGICAL EFFECTS AND FATE RSCH ON ENVIRO POLLUTANTS  
 PERFORM PILOT PLANT RSCH ON WATER AND WASTE WATER FOR FLD ARMY USE

CDR. MG GARRISON RAPMUND

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	4.277	11.788
TOTAL PROCUREMENT	0.245	0.000
TOTAL O&M	0.665	0.342
TOTAL OTHER	2.656	3.142
TOTAL ANNUAL LAB	7.843	15.272
 TOTAL INHOUSE	 7.843	 7.824
TOTAL INHOUSE RDT&E	4.277	4.340
ANNUAL OPERATING COST	4.229	4.000

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	65	24	51	14
CIVILIAN	136	1	2	134
TOTAL	201	25	53	148

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	0.000	36.917	0.000	36.917	0.632	0.875

## ...MISSION

ADMINISTRATION AND COORDINATION OF THE MEDICAL RDT&E PROGRAM  
 PROGRAM LIMITED TO UNIQUE MILITARY PROBLEMS WITHIN US & OCONUS  
 INFECTIOUS DISEASES AND COMBAT DENTAL FUNCTIONS OF FIVE US NAVY LABS  
 WERE PLACED WITH THE US ARMY AS LEAD AGENCY, BY DIRECTION OF CONGRESS.

## ...CURRENT IMPORTANT PROGRAMS

CARE OF THE WOUNDED  
 PREVENTION AND CONTROL OF INFECTIOUS DISEASES  
 ENHANCEMENT OF MILITARY PERFORMANCE  
 PROTECTION AGAINST MILITARY ENVIRONMENTAL HAZARDS  
 MEDICAL DEFENSE AGAINST CHEMICAL WARFARE.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

SERVES AS AN ADMINISTRATIVE HEADQUARTERS FOR THE ARMY  
 MEDICAL DEPARTMENT.

**INSTALLATION: MEDICAL RESEARCH INSTITUTE CHEMICAL DEFENSE****CDR. COL. FRANKLIN H. TOP JR****ABERDEEN PROV. GR., MD****PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	22.123	59.702
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.004	0.000
TOTAL OTHER	2.254	2.522
TOTAL ANNUAL LAB	24.381	62.224
TOTAL INHOUSE	14.186	17.218
TOTAL INHOUSE RDT&E	11.928	14.696
ANNUAL OPERATING COST	2.100	2.360

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	76	35	40	36
CIVILIAN	144	18	32	112
TOTAL	220	53	72	148

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
31	36.426	15.345	98.429	150.200	9.246	8.376

**...MISSION**

FUNDAMENTAL RSCH ON MECHANISMS OF ACTION (CW AGENTS & ANTIDOTES)  
DEVELOPMENT OF PRETREATMENT & ANTIDOTE DRUGS (AGAINST CW AGENTS)  
DEVELOP & EVALUATE PREVENTION, RESUSCITATION, TREATMENT & MANAGEMENT  
METHODS FOR CHEMICAL CASUALTIES AND ASSIST IN THEIR IMPLEMENTATION

**...CURRENT IMPORTANT PROGRAMS**

MED CHEM DEF SCI BASE/MECHANISM OF ACTION AGENTS/DRUGS  
DEVELOP SOLDIER CW AGENT ANTIDOTES & PRETREATMENT REGIMEN  
DEVELOP BIOMEDICAL MODELS TO EVALUATE DRUG EFFICACY  
EVALUATE BEHAVIORAL/PERFORMANCE DECREMENTS FROM CW AGENTS/ANTIDOTES  
DEVELOP METHODS FOR MGT & TREATMENT OF MASS CW CASUALTIES

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

MODERN 7000 SQ FT ANIMAL HOLDING FACILITY  
TECH LIBRARY HAS 4500 BOOKS, 832 JOURNAL TITLES, MANY DATA BASES  
COMPLETE VIDEO PRODUCTION FACILITY  
MEDICAL MAINTENANCE FACILITY  
RADIOISOTOPE CHEM DRUGS & BIOCHEMICAL ANALYSIS  
BEHAVIORAL TESTING LABORATORY  
LIQUID, GAS, COLUMN AND AFFINITY CHROMATOGRAPHY  
ELECTROPHORESIS, SPECTROSCOPY, FLUOMETRY AND SPECTROPOLARIMETRY  
GC MASS SPECTROMETRY AND ELECTRON SPIN RESONANCE  
AMINO ACID ANALYSIS AND PEPTIDE SEQUENCING  
PHYSIOLOGY, PHARMACOLOGY AND NEW PHARMACOLOGY LABORATORIES  
ELECTRON MICROSCOPY, TISSUE CULTURE.

CDR. COL. RICHARD F. BARQUIST

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	18.276	28.554
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.367	0.375
TOTAL OTHER	7.647	7.565
TOTAL ANNUAL LAB	26.290	36.494
TOTAL INHOUSE	18.258	22.438
TOTAL INHOUSE RDT&E	11.851	14.498
ANNUAL OPERATING COST	4.695	5.071

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	318	45	106	212
CIVILIAN	202	37	86	116
TOTAL	520	82	192	328

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
43	80.843	19.820	209.699	310.362	18.763	9.104

## ...MISSION

PERFORMS STUDIES ON THE PATHOGENESIS, DIAGNOSIS, PROPHYLAXIS, TREATMENT AND EPIDEMIOLOGY OF NATURALLY OCCURRING INFECTIOUS DISEASE OF MILITARY IMPORTANCE WITH EMPHASIS ON PROBLEMS ASSOCIATED WITH THE MEDICAL DEFENSE AGAINST BIOLOGICAL AGENTS.

## ...CURRENT IMPORTANT PROGRAMS

MAJOR ANTHRAX EXOPROTEINS AND CELL WALL COMPONENTS WERE PURIFIED & USED TO (A) PRODUCE ANTIBODIES; AND (B) DEV NEW, MORE SENSITIVE ASSAY METHODS OPENS NEW AVENUES FOR PRODUCING NEW IMPROVED, ATTENUATED VACCINE STRAINS TRICOTHECENE TOXINS ARE BEING STUDIED REF LAB SAFETY, DETECTION & DEGRADATION IN BIOL FLUIDS & MECHANISMS OF TOXICITY.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

HIGHLY ATTENUATED STRAIN OF ARGENTINE HEMORRHAGIC FEVER VIRUS HAS BEEN ISOLATED. USED TO PREPARE EXPERIMENTAL VACCINE. VACCINE APPEARS SAFE AND EFFECTIVE FOR PRIMATES.

CDR. MAJ. GEN. JERRY MAX BUNYARD

DIR. DR. WILLIAM C. MCCORKLE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	173.167	177.053
TOTAL PROCUREMENT	58.902	22.688
TOTAL O&M	19.856	33.754
TOTAL OTHER	47.197	24.971
TOTAL ANNUAL LAB	299.122	258.466
TOTAL INHOUSE	95.956	104.432
TOTAL INHOUSE RDT&E	61.084	69.028
ANNUAL OPERATING COST	23.810	23.147

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	44	1	31	13
CIVILIAN	1185	78	681	504
TOTAL	1229	79	712	517

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
11000	664.000	224.000	252.000	1140.000	77.123	72.793

...MISSION

MANAGE & CONDUCT RSCH, EXPER & ADV DEV FOR ASSIGN MATL; PROVIDE S & E SPT TO OTHER ACTIVITIES; PLANS, DIRECTS & CONDUCTS RSCH STUDIES & PRGMS TO ADV SYS ENGR & TESTING TECH; PROVIDES CENTRAL ENGR BASE FOR DESIGN & MANUFACTURE OF PROTOTYPE SYS & COMPONENTS.

...CURRENT IMPORTANT PROGRAMS

SEPARATING PENETRATOR KINETIC ENERGY (SPIKE) ROCKET  
QUIET RADAR  
FIBER OPTICS GUIDED MISSILE  
OVER ARMOR TECHNOLOGY SYNTHESIS  
ARTILLERY ROCKET TECHNOLOGY

...FUNCTIONS/EQUIPMENT/CAPABILITIES

LAB IS EQUIPPED TO STUDY PROBLEMS IN PROP, AERO, G&C & STRUCTURES. MAJOR FAC IS MCMORROW LAB WHICH HOUSES MAJORITY OF FACILITY. SOME UNIQUE FAC ARE: ADV SIM CTR; A COMPUTER COMPLEX SURROUNDED PERIPHERALLY BY 3 ENVIR EFFECTS SIMULATORS; MSL COMPUTER SOFTWARE/HWDE CNTR; SLG EVAL ENVIR CHAMBER; ARMY MSL OPTICAL RANGE DESIGNED TO MEASURE LASER SIG MAINTAINS AND OPERATES 7 MAJOR TEST AREAS WHICH ENCOMPASS FLIGHT STATIC, ENVIRONMENTAL & FUNCTIONAL TEST; STATE-OF-THE-ART FACILITIES&EQUIP SUCH AS LASER TRACKERS & ELECTRO-MAGNETIC RADAR SENSORS. ENGR DESIGN & DEV OF CORRECTIONS TO DESIGN DEFICIENCIES IN FIELDIED WPN SYSTEMS. PERFORMS ARMY LEAD LAB FUNCTIONS IN HIGH POWER/ENERGY LASER RSCH & TECH & MSL RSCH.FAC FOR MECH, ELECT & ELEC FABRICATION & ASSY, & HYBRID MICRO-CIRCUITRY DESIGN ARE AVAILABLE.SMOKE CHARACTERIZATION FACILITY IS ALSO AVAILABLE.



CDR. COL. THEODORE VANDER ELS      TECH. DIR. MR. T. W. LOVELACE

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	95.473	107.095
TOTAL PROCUREMENT	264.948	307.960
TOTAL O&M	26.538	25.274
TOTAL OTHER	0.000	0.000
TOTAL ANNUAL LAB	386.959	440.329
TOTAL INHOUSE	51.362	52.096
TOTAL INHOUSE RDT&E	28.387	29.998
ANNUAL OPERATING COST	15.920	17.500

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	71	1	65	6
CIVILIAN	1200	33	390	810
TOTAL	1271	34	455	816

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1066	488.653	326.499	209.879	1025.031	50.706	47.224

## ...MISSION

PROVIDE THE ARMY WITH NEW AND IMPROVED COMBAT SUPPORT AND COMBAT SERVICE SUPPORT EQMT THROUGH RESEARCH, DEVELOPMENT, ENGINEERING, INITIAL ACQUISITION, AND SUBSEQUENT ACQUISITION SUPPORT IN MOBILITY/COUNTER-MOBILITY, ENERGY, SURVIVABILITY, AND LOGISTICS EQUIPMENT SYSTEMS.

## ...CURRENT IMPORTANT PROGRAMS

COUNTERMINE/COUNTEROBSTACLE EQMT  
HIGH TECHNOLOGY TEST BED  
WATER SUPPLY EQMT  
PETROLEUM DISTRIBUTION SYSTEMS  
ELECTRIC POWER FUEL CELLS

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

ACCOMPLISH RSCH, DEV, & ACQUISITION OF MAT FOR MIL SYS OF BARRIERS, FIELD FORTIFICATIONS, COUNTEROBSTACLE, TACTICAL DECEPTION, CAMOUFLAGE, & CNTRMINE. TUNNEL DETECTION & PHYSICAL SECURITY. FUELS & LUBES, FUEL HNDLG EQMT, ELEC POWER GENERATION & DISTRIB, & ENVIRON CONTROL. TOPOGRAPHY ENGRG. WATER PROD, DISTRIB, & WASTE MGMT. MAT HNDLG, SUPPLY DIST, MARINE & RAIL TRANSPORT EQMT, BRDG. & CONSTRUCTION EQMT. FACILITIES INCLUDE MINE FIELD TEST LANES, SENSOR TEST AREA, RDO FREQ ANECHOIC CHAMBER, FIRE SUPPRESSION CHAMBER, ELEC PROPULSION SIM, BRG TEST HANGER, MBL STRESS ANAL VAN, TRK STABILITY TILT TABLE, VEH TEST TRACKS, SHOCK & VIBRATION DYNAMICS SIM, ENVIRON SIM, MATERIELS RSCH LAB, EMI SIM, COMPT CEN, STILL & MOTION PIC SPT, RSCH & DEV MODEL FABRICATION SHOPS, RAIL IMPACT TEST FACILITY.

CDR. COL. JAMES S. HAYES

TECH. DIR. DR. ROBERT J. BYRNE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	44.764	49.622
TOTAL PROCUREMENT	1.426	0.000
TOTAL O&M	17.340	16.510
TOTAL OTHER	2.916	2.990
TOTAL ANNUAL LAB	66.446	69.122
TOTAL INHOUSE	47.128	47.166
TOTAL INHOUSE RDT&E	30.071	30.058
ANNUAL OPERATING COST	11.393	10.732

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL FHDS	TOTAL PROF	NON- PROF
MILITARY	104	5	34	70
CIVILIAN	1087	69	419	668
TOTAL	1191	74	453	738

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
24	502.704	55.340	298.905	856.949	22.100	21.190

...MISSION

CONDUCT SCIENTIFIC R&D TO SUSTAIN AND PROTECT MILITARY PERSONNEL UNDER ALL CONDITIONS. DESIGN/DEVELOP FOOD/FOOD SERVICE SYSTEMS. CLOTHING, AIR DELIVERY EQUIPMENT. PERFORM ILS FUNCTION. FIRST PRODUCTION BUY/FIELDING OF NEW ARMY MANAGED ITEMS. TECH/ENG SPT TO PROCUREMENT AGENCIES.

...CURRENT IMPORTANT PROGRAMS

CHEMICAL PROTECTION  
LASER HIGH ENERGY PROTECTION  
MICROCLIMATE COOLING PROGRAM FOR GROUND AND AIR COMBAT VEHICLES  
COMBAT FIELD FEEDING SYSTEM  
CHEMICAL AND BALLISTIC HARDENED TACTICAL SHELTERS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

BACTERIOLOGY LAB EQUIPMENT FOR INVESTIGATION OF PATHOGENIC MICRO-ORGANISMS. HIGH RESOLUTION MASS SPECTROMETER FOR ANALYSIS OF VOLATILE COMPOUNDS. FEBETRON MACHINE USED AS A RADIATION SOURCE FOR PULSE RADIOLYSIS. PILOT PLANT TO STUDY DATA ON CONVERTING CELLOLOSE TO GLUCOSE ENZYMATICALLY. DYING AND FINISHING LAB FOR STUDIES TEXTILES. COMPUTER GENERATED SYSTEM OF CLOTHING PATTERNS TO OUTPUT. CLIMATIC TEST CHAMBERS W/TEMPS-57C TO +74C WITH WIND AND RAIN. FLAME PROTECTION LAB AND FACILITY INCLUDING OUTDOOR FIRE PIT. DROP TEST FACILITY, 40X40 FT RAINCOURT, EXPERIMENTAL KITCHEN, SENSORY EVALUATION LAB, HORIZONTAL IMPACT TESTING MACHINE.

DIR. DR. LOUIS M. CAMERON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	70.507	74.227
TOTAL PROCUREMENT	213.910	126.800
TOTAL O&M	2.576	1.000
TOTAL OTHER	0.000	0.000
TOTAL ANNUAL LAB	286.993	202.027
TOTAL INHOUSE	27.900	31.949
TOTAL INHOUSE RDT&E	19.600	23.149
ANNUAL OPERATING COST	1.939	2.200

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	32	0	6	26
CIVILIAN	462	39	207	255
TOTAL	494	39	213	281

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
38	180.639	27.186	20.000	227.825	32.000	30.400

...MISSION

NVEOL IS RESPONSIBLE FOR PROVIDING THE ARMY WITH A NIGHT VISION AND ALL-WEATHER CAPABILITY THAT WILL ALLOW IT TO OPERATE WITH DAYLIGHT EFFICIENCY AT NIGHT AND IN AN OBSCURED ENVIRONMENT. THE SYS DEV PROG IS STRUCTURED AROUND A STRONG TECH BASE IN THE FIELDS OF FIR, LASERS & VISIONICS.

...CURRENT IMPORTANT PROGRAMS

EPITAXIAL GROWTH FOR COMMON MOD AND 2ND GEN DETECTORS  
AUTOMATION OF FLIR AND MULTI-SENSORS  
NEAR INFRARED AND FAR INFRARED TUNABLE LASERS  
THERMAL WEAPON SIGHT  
NIGHT VISION GOGGLES, AN/PVS-7

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR FACILITIES INCLUDE NIGHT VISION SYSTEM LAB, IR DETECTOR FABR AND ANALYSIS FACILITY, SURFACE RESEARCH FACILITY, FOCAL PLANE ARRAY TEST FACILITY, IR OPTICAL TEST FACILITY, IMAGE INTENSIFIER TUBE TESTING FACILITY, SEMICONDUCTOR MATERIALS RESEARCH FACILITY, ELECTRONICS TEST FACILITY, INTERACTIVE IMAGE PROCESSING FACILITY, LASER RANGES, 3-D MULTI SPECTRAL SEARCH SIMULATOR, SCIENTIFIC COMPUTER CENTER, FIRING TEST RANGE, EO/IR IMAGE EVALUATION FACILITY, AND LASER MATERIAL EVALUATION FACILITY.

INSTALLATION: RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI ALEXANDRIA, VA.

CDR. COL. L. NEALE COSBY

TECH. DIR. DR. EDGAR M. JOHNSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	32.139	38.180
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	2.276	3.677
TOTAL OTHER	2.284	2.207
TOTAL ANNUAL LAB	36.699	44.064
TOTAL INHOUSE	19.107	22.309
TOTAL INHOUSE RDT&E	17.853	21.070
ANNUAL OPERATING COST	6.842	7.788

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	30	0	30	0
CIVILIAN	378	168	274	104
TOTAL	408	168	304	104

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	39.051	5.192	11.670	55.913	0.550	0.682

...MISSION

TO MAXIMIZE COMBAT EFFECTIVENESS THROUGH RESEARCH IN THE ACQUISITION DEVELOPMENT AND UTILIZATION OF SOLDIERS IN MILITARY SYSTEMS.

...CURRENT IMPORTANT PROGRAMS

SELECTION AND CLASSIFICATION  
MANPOWER PERSONNEL TRAINING ESTIMATION TECHNOLOGY  
INTELLIGENCE ANALYSIS METHOLOGIES TECHNIQUES  
COMPUTER SUPPORTED COMMAND CONTROL OPERATIONS  
SUSTAINMENT TRAINING.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

THREE RESEARCH LABORATORIES, MANPOWER/PERSONNEL, TRAINING, AND SYSTEMS ARE DIVIDED INTO 5 CONUS CENTERS OF EXCELLENCE AT FT RUCKER FT BLISS FT KNOX AND PRESIDIO OF MONTEREY. PEOPLE RELATED RESEARCH IN AVIATION, SYSTEMS INTEGRATION, COMMAND AND CONTROL, MANEUVER ARMS AND UNIT TRAINING/EVALUATION IS CONDUCTED, RESPECTIVELY, AT THE CENTERS OF EXCELLENCE. 7 TECHNICAL AREAS ARE AT ARI HQS, PERSONNEL UTILIZATION, LEADERSHIP/MANAGEMENT, SELECTION, CLASSIFICATION, SYSTEMS MANNING, BATTLEFIELD INFO SYSTEMS, TRNG AND INSTRUCTIONAL TECH SYSTEMS. 2 SCIENTIFIC COORDINATION OFFICES ARE AT FT SILL AND FT HARRISON WITH FIELD UNITS AT FT BENNING, FTHOOD, & IN USAREUR, & LIAISON OFFICES AT FORSCOM AND IN LONDON. IN HOUSE EXPERIMENTAL FACILITIES INCLUDE LABORATORY AREAS. COMPUTERS THAT PERMIT REALTIME EXPERIMENTATION, GAMING AND SIMULATION WITH EXTERNAL LINES TO PROVIDE FLEXIBILITY.

CDR. COL. ERNEST M. IRONS, JR

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	5.646	4.691
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.066	0.000
TOTAL OTHER	1.583	2.158
TOTAL ANNUAL LAB	7.295	6.849
TOTAL INHOUSE	6.283	6.731
TOTAL INHOUSE RDT&E	4.634	4.573
ANNUAL OPERATING COST	0.000	0.000

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	79	8	54	25
CIVILIAN	99	18	61	38
TOTAL	178	26	115	63

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
4	60.421	18.793	28.647	107.861	4.084	5.207

...MISSION

CONDUCT RSCH TO DETERMINE EFF OF HEAT, COLD, HIGH TERRESTRIAL ALT & WORK ON SOLDIER'S LIFE PROCESSES, PERF & HLTH. CONDUCTS RSCH IN THE PHYSIOLOGICAL ASPECTS & HEALTH EFFECTS OF ARMY PHYSICAL FITNESS TRAINING. ASSIST NATICK LABS IN DEVELOPMENT OF PERSONAL CLOTHING AND EQUIPMENT.

...CURRENT IMPORTANT PROGRAMS

MED SCREEN FOR PERS 0/40 YRS OLD PRIOR TO PARTICIPATION IN PHYS TNG/TSTG ASSESS WORK LIMITNS IMPOSED ON SOLDIER BY SNGL/MLTPL PROT REGMUS TO CW BIOMED IMPACT OF MIL CLTHNG & EQ DSGN INCL SELECTION OF CREW COMPACT ENV INVTGNS DIRECTED TWD VENTILATORY RSPNSE TO HYPOXIA/PRE-SEL FOR H/A MSNS STRUC & FNCTNL ALTNS IN CELLS, TISSUES & ORGANS IND BY EXP TO ENV EXTRMS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCT RSCH & PROVIDE GUIDANCE TO DESIGNERS, ENGINEERS, TACTICIANS, PLANNERS & PHYSICIANS ON MIL PERF & CASUALTY PREVENTION & TRTMENT IN EXTREME CLIMATES & ENGINEERED ENVIRONS; ADVISE ON HLTH & SAFETY IN MANEUVERS DURING HEAT, COLD, OR HYPOXIC STRESS & RAPID AIR TRANSLOCATION. THE MAJOR EQ & FAC CAPABILITIES OF THE LAB INCLUDE TWO LG PLT CHMBRS, SMALL CLIMATIC CHMBRS, AAALIC ACC ANIMAL CARE PAC'S, ELECTRON MICROSEPY, UNDERWATER RSCH POOL, COPPER MANIKINS & DIVERSE PHARMACOLOGICAL & PSYCHOLOGICAL MEASURING EQUIPMENT. THE INSTITUTE MAINTAINS A FIELD FACILITY ON THE SUMMIT OF PIKES PEAK, COLORADO.

CDR/DIR. MR. H. S. HOVEY JR

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	46.425	51.755
TOTAL PROCUREMENT	62.299	37.898
TOTAL O&M	2.075	4.282
TOTAL OTHER	0.000	0.000
TOTAL ANNUAL LAB	110.799	93.935
TOTAL INHOUSE	6.583	7.510
TOTAL INHOUSE RDT&E	5.633	6.207
ANNUAL C . . . . .ING COST	2.820	2.505

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	51	0	10	41
CIVILIAN	180	5	93	87
TOTAL	231	5	103	128

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
10	3.986	29.145	6.963	40.094	3.500	5.800

...MISSION

PROVIDE THE US ARMY WITH EFFECTIVE TACTICAL COMMUNICATIONS, ELECTRONIC WARFARE AND TACTICAL AND STRATEGIC COMMUNICATIONS, INTELLIGENCE (COMINT).

...CURRENT IMPORTANT PROGRAMS

AN/TSQ-114 TRAILBLAZER  
AN/MLQ-34 TACJAM  
DN/TLQ-17A TRAFFIC JAM  
AN/TRQ-32 TEAMMATE  
AN/TSQ-113 AND AN/TSS-11 REAR ECHELON COMINT

...FUNCTIONS/EQUIPMENT/CAPABILITIES

THE LABORATORY CONSISTS OF APPROXIMATELY 4000 SQUARE FEET WITH A COMMUNICATIONS INTERCEPT, PROCESSING, COLLECTION, DIRECTION FINDING AND JAMMING MATERIEL MISSION. FACILITIES AVAILABLE INCLUDE AN ANTENNA FIELD FOR SIGNALS COLLECTION, A COMPUTORIZED SIGNAL, ANALYSIS PROCESSING SYS FOR SIGNALS SIMULATION AND ANALYSIS, AND AN IN-HOUSE FACILITY FOR SYSTEM SOFTWARE VERIFICATION AND VALIDATION. THE LAB IS STAFFED WITH ELECTRONICS ENGINEERS, TECHNICAL SIGNAL ANALYSTS, OPERATIONS RESEARCH ANALYSTS, INTEGRATED LOGISTICS SUPPORT PERSONNEL, PRODUCT AND QUALITY ASSURANCE TECHNICANS, AND PRODUCTION ENGINEERS TO PROVIDE FOR MILITARILY USEFUL EQUIPMENT AND SYSTEMS.

CDR. BG C. M. MATTHEWS

ACT. TECH. DIR. DR. C. H. CHURCH

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	98.753	112.222
TOTAL PROCUREMENT	361.276	655.296
TOTAL O&M	13.236	13.039
TOTAL OTHER	1.391	1.477
TOTAL ANNUAL LAB	474.656	782.034
TOTAL INHOUSE	48.760	49.025
TOTAL INHOUSE RDT&E	24.472	25.818
ANNUAL OPERATING COST	7.045	7.405

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	30	1	26	4
CIVILIAN	523	14	290	233
TOTAL	553	15	316	237

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
11	257.152	33.284	111.777	402.213	39.600	117.000

## ...MISSION

RESPONSIBLE FOR ACCOMPLISHING DESIGN, DEVELOPMENT, ACQUISITION AND INITIAL DEPLOYMENT OF ASSIGNED WEAPONS/EQUIP SYSTEMS. CONDUCT AND MANAGE RESEARCH, PERFORM PROCUREMENT AND QUALITY ASSURANCE THRU DEVELOPMENT. PERFORM RELIABILITY-MAINTAINABILITY ASSESSMENT.

## ...CURRENT IMPORTANT PROGRAMS

COMBAT VEHICLE TRACK PROGRAM.  
TANK TEST BED (TECHNOLOGY DEMONSTRATOR).  
ADIABATIC ENGINE PROGRAM.  
FUTURE CLOSE COMBAT VEHICLE SYSTEMS.  
ADVANCED INTEGRATED PROPULSION SYSTEM.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

VEHICLE BRAKE DYNAMOMETER; ENGINE AND TRANSMISSION TEST CELLS  
VEHICLE SUBSYSTEM INTEGRATION, VEHICLE MOTION SIMULATOR  
ANALYTICAL PREDICTION OF MILITARY VEHICLE PERFORMANCE  
VEHICLE SIGNATURE MEASUREMENT CAPABILITY  
SIX DEGREE OF FREEDOM SIMULATOR. VEHICLE COMPONENT EVALUATION.  
SCIENTIFIC AND ENGINEERING COMPUTER NETWORK (SENET) FOR  
COMPUTER AIDED DESIGN (CAD) SERVICES. METAL ANALYSIS WITH  
MICROPROBE ELECTRON MICROSCOPE ANALYZER AND TECHNIQUES  
DEVELOPMENT OF IMPROVED ARMOR WELDING, FABRICATION AND APPLICATION  
TECHNIQUES. LOW TEMPERATURE SHOCK AND VIBRATION TEST FACILITIES  
VEHICLE DYNAMIC SIMULATION FACILITY; IMAGE PROCESSING CAPABILITY  
HOLOGRAPHIC CAPABILITY FOR LARGE STRUCTURES

CDR. COL. RICHARD P. BARRERE

TECH. DIR. MR. FRANK S. MENDEZ

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	3.704	3.830
TOTAL PROCUREMENT	0.040	0.015
TOTAL O&M	0.016	0.002
TOTAL OTHER	1.511	1.559
TOTAL ANNUAL LAB	5.271	5.406
TOTAL INHOUSE	5.136	5.318
TOTAL INHOUSE RDT&E	3.583	3.752
ANNUAL OPERATING COST	0.540	0.550

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	71	0	8	63
CIVILIAN	60	2	11	49
TOTAL	131	2	19	112

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
2626	18.000	35.925	88.556	142.481	0.874	3.406

## ...MISSION

PLAN, CONDUCT AND REPORT ON ENVIRONMENTAL PHASES OF DEVELOPMENT TEST II AND OTHER DEVELOPMENTAL TYPE TESTS. PROVIDE ADVICE AND GUIDANCE ON TESTS AND EVALUATION MATTERS TO MATERIEL DEVELOPERS, MATERIEL PRODUCERS, OTHER SERVICES AND PRIVATE INDUSTRY.

## ...CURRENT IMPORTANT PROGRAMS

155MM SMOKE PROJECTILE  
120MM CARTRIDGE  
XM30 PROTECTIVE MASK  
TEST METHODOLOGY STUDIES  
INDEPENDENT LABORATORY IN-HOUSE RESEARCH STUDIES.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST FACILITIES AND LABORATORIES WITH INSTRUMENTS AND EQUIPMENT FOR CONDUCTING TROPICAL TESTS OF DOD MATERIEL IN THE NATURAL ENVIRONMENT TO INCLUDE ELECTRONICS, HUMAN FACTORS, CHEMICAL, MICROBIOLOGICAL, MATERIALS, SOILS, AUDIO-VISUAL, AND DATA ANALYSIS.

OTHER TEST RESOURCES CONSIST OF FIRING RANGES, NATURAL TERRAIN MOBILITY COURSES, AMMO TEST STORAGE AND FUNCTIONING AREAS, JUNGLE, GRASS, AND COASTAL MATERIEL EXPOSURE SITES, JUNGLE RADIO RANGING SITES, POL TANK FARM, MANPACK PORTABILITY COURSE, CALIBRATED SEISMIC DETECTION AND CHEMICAL TEST GRIDS AND 2533 ACRES OF BROADLEAF EVERGREEN TREES, SEMIDECIDUOUS TREES, MARSHLAND, GRASSLAND, CORAL REEFS, FLAT AND HILLY TERRAIN AND ALL TYPES OF TROPIC VEGETATION.



INSTALLATION: WALTER REED ARMY INSTITUTE OF RESEARCH

WASHINGTON, D.C.

DIR. COL. PHILIP K. RUSSELL

DEP. DIR. LTC. FRANK J. SODETZ JR

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	43.928	64.1
TOTAL PROCUREMENT	0.000	
TOTAL O&M	1.917	
TOTAL OTHER	11.150	
TOTAL ANNUAL LAB	56.995	
TOTAL INHOUSE	41.951	46.011
TOTAL INHOUSE RDT&E	28.944	30.632
ANNUAL OPERATING COST	1.777	2.403

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	458	160	378	80
CIVILIAN	433	65	209	224
TOTAL	891	225	587	304

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
203	383.274	58.600	0.000	441.874	10.080	20.533

...MISSION

PERFORMS GENERAL MILITARY MEDICINE RESEARCH IN THE AREAS OF COMM DIS & IMMUNOLOGY, SURGERY, DRUG DEV, NEUROPSY, GEN MED, & PREV MED. SERVES AS COMMAND & CONTROL ELEMENT FOR THE SPEC FOREIGN ACTIVITIES. PLAN & CONDUCTS AMEDD COURSES.

...CURRENT IMPORTANT PROGRAMS

BASIC RESEARCH ON MILITARY DISEASES.  
MILITARY PSYCHIATRY.  
MICROWAVE INJURY, PREVENTION & TREATMENT.  
MED EFFECTS OF WEAPONS SYS BLAST OVERPRESSURE.  
MED ASPECTS OF CHEM WARFARE DEF.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR EQUIP & FACILITY CAPABILITY OF THE LAB INCLUDES CHEM ANALYT EQUIP, MICROBIOLOGICAL LABS, MICROWAVE EXPOSURE SYS, BEHAVIORAL RES INSTRUMENTATION AND ELECTRON MICROSCOPES  
ADDITIONAL RESEARCH FACILITIES ARE LOCATED IN GERMANY, MALAYSIA, KENYA, BRAZIL, THAILAND AND MARYLAND.

CDR. MG. NILES J. FULWYLER

SCI. TECH. DIR. DR. RICHARD A. DUNCAN

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	219.730	222.361
TOTAL PROCUREMENT	13.191	13.696
TOTAL O&M	5.294	5.818
TOTAL OTHER	17.936	18.653
TOTAL ANNUAL LAB	256.151	260.528
TOTAL INHOUSE	156.714	159.636
TOTAL INHOUSE RDT&E	128.752	130.304
ANNUAL OPERATING COST	34.816	34.845

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	919	2	475	444
CIVILIAN	2736	54	1074	1662
TOTAL	3655	56	1549	2106

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1748490	1341.929	584.840	3129.091	5055.860	197.701	232.441

## ...MISSION

TO PROVIDE AND OPERATE A NATIONAL TEST RANGE,  
TO TEST AND EVALUATE ARMY MATERIEL, AND  
TO OPERATE AND MAINTAIN THE INSTALLATION.

## ...CURRENT IMPORTANT PROGRAMS

ARMY-PERSHING, PATRIOT, COPPERHEAD, MLRS, HAWK, AND ASSAULT BREAKER  
AIR FORCE-PAVE MOVER, AMRAAM, AND AIM  
NAVY-ROLLING AIRFRAME MISSILE, STANDARD MISSILE, AND SOUNDING ROCKETS  
NASA-SPACE SHUTTLE  
OTHER-DOD HIGH ENERGY LASER SYS TEST FACILITY (HELSTF) AND DNA TESTS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

WSMR, AN ALL OVER LAND TEST RANGE, PROVIDES TREMENDOUS LAND AND AIRSPACE FOR MISSILE SYSTEM/SUBSYSTEM TESTING. THE RANGE PROVIDES INTERNAL AND EXTERNAL MEASUREMENTS DATA UTILIZING TELEMETRY (SECURE) AND RADAR, LASER TRACKING, INTERFEROMETER, OPTICAL, AND OTHER INSTRUMENTATION SYSTEMS. THESE SYSTEMS, THE LAUNCH COMPLEXES, CONTROL CENTERS, AND DATA PROCESSING AND DISPLAY FACILITIES ARE JOINED BY EXTENSIVE TIMING AND COMMUNICATIONS SYSTEMS. OTHER CAPABILITIES INCLUDE: EXPERIMENTAL PAYLOAD AND MISSILE COMPONENT RECOVERY, AIR AND GROUND MULTIPLE TARGET CONTROL, GEODETIC SURVEYING, ELECTRO-OPTICAL AND MICRO-WAVE SYSTEM, DYNAMIC AND CLIMATIC ENVIRONMENTS, CHEMICAL, METALLURGICAL, MICROBIOLOGICAL, NUCLEAR AND ELECTROMAGNETIC EFFECTS; AND HAZARDOUS WARHEADS AND EXPLOSIVES.

CDR. COL. H. B. LOVE JR

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	49.312	56.186
TOTAL PROCUREMENT	2.941	3.426
TOTAL O&M	0.734	0.482
TOTAL OTHER	5.759	5.679
TOTAL ANNUAL LAB	58.746	65.773
TOTAL INHOUSE	58.746	65.773
TOTAL INHOUSE RDT&E	49.312	56.186
ANNUAL OPERATING COST	14.794	16.856

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	324	0	57	267
CIVILIAN	585	0	74	511
TOTAL	909	0	131	778

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
838061	0.832	114.288	1419.408	1534.528	56.485	69.863

...MISSION

PLAN, CONDUCT, SPT DT AIR DEL EQ, L-RNGE TUBE ARTY, ACFT WPNS SYS, MOB EQUIP, PLAN, CONDUCT, RPT DESERT TEST. PROVIDE TEST, EVAL ADVICE, GUIDANCE TO PROSPECTIVE FACILITY USERS. DEVELOP, MAINTAIN MASTER PLAN FOR INSTALLATION, FACILITIES, METHODOLOGY AND INSTRUMENTATION

...CURRENT IMPORTANT PROGRAMS

ADVANCED ATTACK HELICOPTER  
MI ABRAMS TANK  
GLOBAL POSITIONING SYSTEM  
60,000 LB AIR DROP SYSTEM  
XM785 155-MM PROJECTILE.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

INSTRUMENTED 60 KM ARTILLERY RANGE  
VEHICLE TEST COURSES AND MOBILE DYNAMOMETERS  
INSTRUMENTED 20X30 KM AIRCRAFT ARMAMENT RANGE  
INSTRUMENTED AIR DELIVERY DROP ZONES  
AIRSPACE WITH LASER, POSITION LOCATING SYSTEM, & CINETHEODOLITE TRACKING  
STATIONARY, MOVING AND SIMULATED TARGETS ARRAY  
INSTRUMENTED PROJECTILE IMPACT AREAS WITH AUTOMATED SCORING  
PHYSICAL AND CHEMICAL TEST FACILITIES  
ENVIRONMENTAL SIMULATION TEST FACILITIES  
SCIENTIFIC COMPUTER CENTER WITH REAL-TIME TEST CONTROL AND DATA DISPLAY  
VEHICLE, WEAPONS AND AIRCRAFT MAINTENANCE AND EVALUATION FACILITIES  
INSTRUMENTATION CALIBRATION FACILITY

C.O. CAPT. W. M. HOUK

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	4.088	3.683
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.002	0.000
TOTAL OTHER	0.776	0.745
TOTAL ANNUAL LAB	4.866	4.428
TOTAL INHOUSE	4.411	4.235
TOTAL INHOUSE RDT&E	3.677	3.490
ANNUAL OPERATING COST	1.128	1.255

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	38	13	15	23
CIVILIAN	57	10	24	33
TOTAL	95	23	39	56

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
7	111.293	6.796	13.872	131.961	3.130	3.664

## ...MISSION

CONDUCT RESEARCH, DEVELOPMENT, TEST AND EVALUATION IN AVIATION MEDICINE AND ALLIED SCIENCES RELATED TO THE SAFETY AND PERFORMANCE OF NAVY AND MARINE CORPS PERSONNEL.

## ...CURRENT IMPORTANT PROGRAMS

AVIATION MEDICAL PERFORMANCE BASE STANDARDS.  
PHYSIOLOGICAL AND BEHAVIORAL EFFECTS NONIONIZING RADIATION.  
HUMAN FACTORS DESIGN CRITERIA DEVELOPMENT.  
DEVELOPMENT IN PERFORMANCE ENHANCEMENT IN NAVAL MOTION ENVIRONMENTS.  
AVIATION VISUAL PERFORMANCE REQUIREMENTS AND CAPABILITIES.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

SLOW ROTATION ROOM. CORIOLIS ACCELERATION PLATFORM. HUMAN DISORIENTATION DEVICE. STILL-WERNER CHAIR. OFF VERTICAL ROTATING CHAIR. ANACHOIC AND REVERBERANT CHAMBERS. AUTOMATED PULMONARY FUNCTION. TREADMILL. VECTOR AND ECHOCARDIOGRAPH. THERMOGRAPHIC IMAGING SYSTEM. 30 BINOCULAR EYE-TRACKER AND VISUAL STIMULATOR ELECTRON MICROSCOPE. VIVARIUM WITH OPERATING SUITE. EQUIPPED FOR HUMAN AND ANIMAL EXPERIMENTS IN UNUSUAL FORCE ATMOSPHERIC ACOUSTICAL ELECTROMAGNETIC ENVIRONMENTS. COMPLEX TASKS HUMAN PERFORMANCE MEASUREMENT SYSTEMS.

INSTALLATION: AIR DEVELOPMENT CENTER

JOHNSVILLE, PA.

C.O. CAPT. J. B. ANDERSON

TECH. DIR. R. S. BUFFUM

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	180.493	190.328
TOTAL PROCUREMENT	57.971	47.247
TOTAL O&M	38.431	29.598
TOTAL OTHER	26.574	21.602
TOTAL ANNUAL LAB	303.469	288.775
TOTAL INHOUSE	160.523	127.832
TOTAL INHOUSE RDT&E	113.259	91.444
ANNUAL OPERATING COST	36.246	47.187

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	259	2	55	204
CIVILIAN	2088	34	1163	925
TOTAL	2347	36	1218	1129

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
840	852.000	83.000	654.000	1589.000	37.900	74.800

...MISSION

TO BE THE PRINCIPAL NAVY RDT&E CENTER FOR NAVAL AIRCRAFT SYSTEMS  
LESS AIRCRAFT LAUNCHED WEAPON SYSTEMS

...CURRENT IMPORTANT PROGRAMS

CARRIER ANTI-SUBMARINE WARFARE MODULE  
S-3A, F-14, F-18, VP PROGRAM  
LIGHT AIRBORNE MULTI-PURPOSE SYSTEMS  
NAVSTAR GPS  
J-TIDS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

AIRCRAFT SYSTEMS SIMULATION, AIRBORNE SEARCH & RESCUE, INERTIAL  
NAVIGATION TECHNOLOGY, AIR VEHICLE TECHNOLOGY STRUCTURES, MATERIALS,  
FLIGHT DYNAMICS, PERFORMANCE, FLIGHT CONTROL, AIRBORNE ASW SYSTEMS.  
DEVELOP & INTEGRATION OF AIRBORNE SYSTEMS INCLUDING ELECTRONIC  
SURVEILLANCE & COUNTERMEASURES, COMMUNICATIONS, NAVIGATION INFORMATION  
PROCESSING & DISPLAY, ENVIRONMENTAL SENSING, ELECTROMAGNETIC/MAGNETIC,  
ACOUSTIC, ELECTRO-OPTIC, & PHOTOGRAPHIC, A/C SUPPORT SYSTEMS, A/C COST  
METHODOLOGY AND LOGISTICS, AEROSPACE MEDICINE AND AVIATION PHYSIOLOGY  
AND SUPPORT TO OTHER ACTIVITIES AS DIRECTED.

**C.O. CAPT. E. J. STURM**
**TECH. CONSULTANT MR. R. C. BONDI**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	43.036	55.111
TOTAL PROCUREMENT	5.259	2.731
TOTAL O&M	1.390	0.033
TOTAL OTHER	1.353	0.806
TOTAL ANNUAL LAB	51.038	58.681
TOTAL INHOUSE	27.674	37.396
TOTAL INHOUSE RDT&E	24.149	33.863
ANNUAL OPERATING COST	7.833	12.137

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	8	1	8	0
CIVILIAN	578	0	167	411
TOTAL	586	1	175	411

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
68	491.202	25.640	93.800	610.642	51.810	10.221

**...MISSION**

PROVIDE NAVAIR & FLEET COMPLETE TECHNICAL & ENGINEERING SUPPORT FOR AIR-BREATHING PROPULSION SYSTEMS, ACCESSORIES, COMPONENTS AND FUELS & LUBES. MANAGE AND PERFORM APPLIED R&D ON NEW PROPULSION SYSTEMS; EVALUATE NEW SYSTEMS. BY T&E ASSURE MISSION ACCOMPLISHMENT AND SOLVE FLEET PROBLEMS.

**...CURRENT IMPORTANT PROGRAMS**

CRUISE MISSILE ENGINE (F107) WARRANTY/DEVELOPMENT TESTING  
 PETROLEUM & SYNTHETIC AIRCRAFT ENGINE FUEL DEVELOPMENT, TEST & EVAL  
 VTXS ENGINE ACCELERATED SIMULATED MISSION ENDURANCE TEST  
 F404 ENGINE ENGINEERING/PRODUCT SUPPORT FOR FLEET  
 JOINT TECHNOLOGY DEMONSTRATOR ENGINE CONTRACT MANAGEMENT/AIR FORCE COORD

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

THREE LARGE ALTITUDE CELLS, TWO LARGE SEA LEVEL CELLS AND FOUR SMALL ALTITUDE CELLS PROVIDE ENVIRONMENTAL AND FLIGHT SIMULATION CAPABILITY OF SEA LEVEL TO 100000 FEET; MINUS 65 TO PLUS 650 DEGREES F; FLIGHT SPEEDS FROM ZERO TO MACH 3 TO TEST TURBOJET/FAN AND TURBOPROP/SHAFT ENGINES. FIVE TEST ROOMS TO TEST STARTERS, ACCESSORIES AND AUXILIARY POWER UNITS. TEN TEST ROOMS AND CHEMISTRY LAB USED FOR R&D ON FUELS, LUBES AND BEARINGS. SPECIAL TEST FACILITIES ARE ROTOR SPIN FACILITY, HELICOPTER TRANSMISSION TEST FACILITY, GYRO RIG AND ENGINE TURNTABLE. FACILITIES ARE USED FOR R&D ON ADVANCED FUELS AND LUBRICATING OILS, OIL-WETTED ENGINE COMPONENTS, AIR POLLUTION, LOW CYCLE FATIGUE, CONTAINMENT, NOISE AND I/R PROGRAMS. NAPC QUALS OILS, MANAGES NAVY EXPLORATORY AND ADV DEVEL PRGMS, PROVIDES ADMN & TECH DIR TO SELECTED NAVAIR CONTRACTS.

C.O. RADM E. J. HOGAN

TECH. DIR. MR. J. F. LYNCH

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	117.100	132.600
TOTAL PROCUREMENT	26.200	36.700
TOTAL O&M	23.700	37.500
TOTAL OTHER	43.220	28.652
TOTAL ANNUAL LAB	210.220	235.452
TOTAL INHOUSE	148.521	158.494
TOTAL INHOUSE RDT&E	91.832	104.091
ANNUAL OPERATING COST	82.375	90.781

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	1479	0	292	1187
CIVILIAN	2024	7	488	1536
TOTAL	3503	7	780	2723

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
7174	886.190	420.567	4475.710	5782.467	152.497	55.541

...MISSION

CONDUCT RDT&E ON AUTOMATIC TEST EQUIP, COMPUTERS & SOFTWARE, HUMAN FACTORS, RELIABILITY & MAINTAINABILITY, DYNAMIC INTERFACE, & SYS INTEGRATION. PRINCPL SITE FOR FULLSCALE DEVEL BY CNTRCTR OF NAV&MARCORPS ARCRFT, GRND SUPPT EQUIP & TRNG SIMULATORS. TRNG OF NAVY TEST PILOTS.

...CURRENT IMPORTANT PROGRAMS

F/A-18A, LAMPS AND AV-8B FULL SCALE DEVELOPMENT AND SERVICE SUITABILITY TESTING. CONDUCT TECHEVALS AND BIS TRIALS FOR F/A-18A, F-14, F-4, A-4, A-7, A-6, EA-6, AV-8B, P-3, S-3, E-2, EC-130, AH-1, UH-1, H-46, H-53, H-2, H-3 AND SH-60.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

LARGE INSTRUMENTED, RESTRICTED AIRSPACE AND DIRECT ACCESS TO INSTRUMENTED OFFSHORE WARNING AREAS; REAL-TIME RANCE AND AIRCRAFT TELEMETRY DATA PROCESSING AND DISPLAY; SIMULATION CAPABILITIES FOR AIRBORNE WEAPONS SYSTEMS AND SOFTWARE; ENVIRONMENTAL SIMULATION CAPABILITIES FOR UNDER-WATER ACOUSTICS, ELECTRONIC WARFARE AND ELECTROMAGNETIC VULNERABILITY AND EFFECTS TESTING; AIRCRAFT GUN FIRING TUNNEL; ELECTRICAL SYSTEM TEST FACILITY; CONTROLLED ENVIRONMENT ENGINE, HYDRAULIC, FUEL, ENVIRONMENTAL, AND ELECTRICAL TEST CAPABILITY; SHIPBOARD CATAPULT AND ARRESTING GEAR; ANTENNA TEST RANGE; LAND, SEA AND AIR TARGETS; SHIP GROUND STATION FOR LAMPS TESTING; ELECTROMAGNETICALLY SHIELDED HANGAR; PRECISION ELECTRO-OPTICAL TARGET; EXTENSIVE AIRCRAFT AND GROUND-BASED INSTRUMENTATION POOL AIDED BY DEVELOPMENT, FABRICATION AND INSTALLATION FACILITIES.

**INSTALLATION: ATLANTIC FLEET WEAPONS TRAINING FACILITY ROOSEVELT ROADS, P.R.****C.O. CAPT. D. A. GERRISH JR.****TECH. DIR. MR. TOMAS RAMIREZ****PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	0.435	0.095
TOTAL PROCUREMENT	10.185	5.335
TOTAL O&M	17.798	19.539
TOTAL OTHER	4.125	3.223
TOTAL ANNUAL LAB	32.543	28.192
TOTAL INHOUSE	5.560	5.829
TOTAL INHOUSE RDT&E	0.006	0.003
ANNUAL OPERATING COST	1.651	1.501

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	94	0	29	65
CIVILIAN	34	0	20	14
TOTAL	128	0	49	79

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
3696	0.000	14.957	182.152	197.109	13.810	115.000

**...MISSION**

TO OPERATE, MAINTAIN AND DEVELOP WEAPONS TRAINING FACILITIES AND SERVICES IN DIRECT SUPPORT OF THE TRAINING OF FLEET FORCES AND OTHER ACTIVITIES AND FOR THE DEVELOPMENT, TEST AND EVALUATION OF WEAPONS SYSTEMS.

**...CURRENT IMPORTANT PROGRAMS**

CNO PROJECT 547 DT/OT-IID NTU/SM-2 SHIPBOARD SYSTEM MODS.  
CNO PROJECT G23 DT/OT-IIE SM-2 SHIPBOARD SYSTEM TESTS  
CG-47/AEGIS PROJECT-DT/OT  
AIM-54 FOT&E PHOENIX  
GPS-SMILS

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

NAVY'S LARGEST TRAINING FAC FOR ATLANTIC FORCES WITH 202,000 SQ.MI. COMBINED SEA AREA FOR AIR, SURFACE AND SUBSURFACE WARFARE OPERATIONS. CENTRAL COMMAND AND CONTROL SYSTEM WITH NTDS LINKING, REALISTIC EW ENVIRONMENT, SURVEILLANCE/TRACK RADARS, AIR/SURFACE TARGETS PRESENTATION, LARGE SCREEN DISPLAY SYSTEM FOR OPS MONITOR/CONTROL, EVENT RECONSTRUCTION AND VARIOUS OTHER INSTRUMENTATION SYS. FLTAC FIELD STATION FOR MISSILE ANALYSIS AND EVALUATION. AIR TO GRND AND SURFACE TO SURFACE WEAPONS TARGET FACILITIES FOR CONVENTIONAL AIRCRAFT ORDNANCE DELIVERY, STRAFING AND NAVAL GUNFIRE WITH RADAR, TV BOMB SCORING SYSTEM AND OTHER SCORING/SPOTTING SYSTEMS. UNDERWATER RANGE FOR PRECISION SURFACE AND SUBSURFACE TRACKING, WSATS AND FORACS. NAVSTA PROVIDES FOR AIRCRAFT/SHIPS LOGISTICS SUPPORT, BOQ AND BEQ



C.O. CAPT. L. E. WILLIAMS

CH. SCI. DR. C. L. EWING

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	3.813	5.129
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	0.653	0.849
TOTAL ANNUAL LAB	4.466	5.978
TOTAL INHOUSE	4.116	4.928
TOTAL INHOUSE RDT&E	3.463	4.079
ANNUAL OPERATING COST	0.578	0.590

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	34	5	7	27
CIVILIAN	54	7	27	27
TOTAL	88	12	34	54

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	35.702	24.452	0.000	60.154	0.260	0.279

...MISSION

CONDUCT BIOMED RSCH ON EFF OF MECH FORCES (MOTION, VIBRATION, IMPACT) ENCOUNTERED IN SHIPS AND AIRCRAFT BY NAVY PERSONNEL; ESTABLISH HUMAN TOLERANCE LIMITS FOR THESE FORCES; DEVELOP PREVENTIVE AND THERAPEUTIC METHODS TO PROTECT PERSONNEL FROM DELETRIOUS EFFECTS OF SUCH FORCES.

...CURRENT IMPORTANT PROGRAMS

LONG-TERM EFFECTS OF BIODYNAMIC STRESS EXPERIMENTS.  
PHYSIOLOGICAL AND PERFORMANCE EFFECTS OF SHIP MOTION ON CREW MEMBERS.  
DETERMINATION OF HUMAN DYNAMIC RESPONSE TO IMPACT ACCELERATION.  
EFFECTS OF IMPACT ACCELERATION ON HUMAN NEUROPHYSIOLOGY.  
DEVELOPMENT OF AND VALIDATION OF HUMAN ANTHROPOMORPHIC MANIKINS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

IMPACT FACILITY, 1 MEGA N THRUST ACCELERATOR. 213 M ENVIRONMENTALLY ENCLOSED TRACK. 17.8 K N THRUST VERTICAL ACCELERATOR. XRAY CINEMATOGRAPHY. ELECTRODYNAMIC MOTION EXCITORS. C210 SHAKER. SHIP MOTION GENERATOR. 22 CHANNEL INERTIA DATA ACQUISITION SYSTEM AND HIGH SPEED CAMERAS EQUIPPED FOR HUMAN AND ANIMAL EXPERIMENTS IN UNUSUAL FORCE ATMOSPHERIC ACOUSTICAL ELECTROMAGNETIC ENVIRONMENTS.

C.O. CDR. J. E. SIPPEL

SCI. DIR. DR. D. KINGSBURY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.866	3.785
TOTAL PROCUREMENT	0.000	0.000
TOTAL Q&M	0.000	0.000
TOTAL OTHER	0.220	0.309
TOTAL ANNUAL LAB	3.086	4.094
TOTAL INHOUSE	3.086	4.094
TOTAL INHOUSE RDT&E	2.866	3.785
ANNUAL OPERATING COST	0.766	0.885

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	9	3	4	5
CIVILIAN	6	0	0	6
TOTAL	15	3	4	11

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
5	77.625	8.731	34.646	121.002	1.000	5.502

...MISSION

THE MISSION OF THE BIOSCIENCES LABORATORY IS TO CONDUCT RESEARCH AND DEVELOPMENT IN THE BIOSCIENCES RELATED TO THE NEEDS OF THE NAVAL ESTABLISHMENT

...CURRENT IMPORTANT PROGRAMS

RECOMBINANT DNA TECHNOLOGY. MONOCLONAL ANTIBODIES. TOXIC EFFECTS OF ORGANOMETAL COMPOUNDS IN THE MARINE ENVIRONMENT. BLOOD GROUP DEGRADING ENZYMES. MODULATION OF IMMUNE RESPONSE. RAPID DETECTION OF MICRO-ORGANISMS. VECTOR COMPETENCE OF MOSQUITOES.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

EQUIPMENT INCLUDES CLASS III CONTAINMENT FACILITIES FOR HANDLING PATHOGENIC VIRUS AND BACTERIA, CONTINUOUS FLOW LIQUID WASTE DECONTAMINATION UNIT, PROCESS AIR DECONTAMINATION SYSTEM, ELECTRON SPIN RESONANCE AND NUCLEAR MAGNETIC RESONANCE SPECTROMETERS SPECTROPHOTOMETER, SPECTROFLUOROMETER AND BOTH SCANNING AND TRANSMISSION ELECTRON MICROSCOPES. THE EQUIPMENT IS CONTINUOUSLY BEING MODIFIED AND EXPANDED ACCORDING TO CURRENT PROJECTS. NBL IS A CONTRACT BASIC RESEARCH LAB WITH THE UCB. MOST SCIENTIFIC PERSONNEL ARE UCB EMPLOYEES.

**C.O. CAPT. JAMES H. OSBORN    TECH DIR. DR. DONALD L. BIRKIMER**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	32.665	33.230
TOTAL PROCUREMENT	0.390	0.290
TOTAL O&M	2.429	3.170
TOTAL OTHER	1.141	0.990
TOTAL ANNUAL LAB	36.625	37.680
TOTAL INHOUSE	20.096	19.170
TOTAL INHOUSE RDT&E	17.091	17.200
ANNUAL OPERATING COST	5.067	4.267

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	16	0	8	8
CIVILIAN	322	27	169	153
TOTAL	338	27	177	161

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
30	81.840	71.748	44.158	197.746	7.593	4.708

**...MISSION**

MISSION OF LABORATORY IS TO BE THE PRINCIPAL RDT AND E CENTER FOR NAVY SHORE FACILITIES, FIXED SURFACE AND SUBSURFACE OCEAN FACILITIES AND FOR THE NAVY AND MARINE CORPS CONSTRUCTION FORCES.

**...CURRENT IMPORTANT PROGRAMS**

NAVY SHORE FACILITIES SUPPORT. NAVY SEAFLOOR INSTALLATIONS, AMPHIBIOUS AND ADVANCED BASE TECHNOLOGY. ENVIRONMENTAL PROTECTION. ORGANIC MATERIALS. ENERGY TECHNOLOGY. DEEP OCEAN TECHNOLOGY. OFFSHORE BULK FUEL TRANSFER. INDEPENDENT EXPLORATORY DEVELOPMENT. INDEPENDENT RESEARCH. CONTAINER OFF-LOADING TRANSFER SYSTEM (COTS).

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

PRESSURE VESSEL FACILITY WITH 9, 18, 34, 72, INCH VESSELS SIMULATION PRESSURES TO OCEAN DEPTHS OF 20,000 FEET. DIVING LOCKER AND EQUIPMENT FOR 10 DIVERS. SEA FLOOR SOILS LAB. ENERGY TEST BED. CLASS G PHOTO LAB. PHYSICAL SECURITY LABS. CHEMISTRY LAB. INSTRUMENTATION LAB. WARPING TUG ELECTROMAGNETIC FACILITY. CORROSION AND METALURGICAL LABS. ENVIRONMENTAL RESEARCH LAB. PRIME 550-II COMPUTER TERMINAL WITH HIGH SPEED LINE PRINTER. DIGITAL MAG TAPE. PEN PLOTTER. CURRENT SENSOR LAB. ENERGY MONITORING CAPABILITY. PROTOTYPE MACHINE, WELDING, CARPENTER, AND RIGGING SHOPS. SHALLOW OCEAN SIMULATION FACILITY. MATERIAL TESTING LAB. ELECTRICAL SYSTEMS LAB. CONCRETE MIXING LAB. AGGREGATE PROCESSING LAB. DATA PROCESSING CENTER.

# INSTALLATION: CLOTHING & TEXTILE RESEARCH FACILITY

NATICK, MA.

C.O. CDR. JAMES C. ROBERTSON

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	1.890	2.655
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	1.314	1.253
TOTAL OTHER	0.169	0.056
TOTAL ANNUAL LAB	3.373	3.964
TOTAL INHOUSE	3.226	3.659
TOTAL INHOUSE RDT&E	1.743	2.355
ANNUAL OPERATING COST	0.129	0.155

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	1	0	1	0
CIVILIAN	56	1	34	22
TOTAL	57	1	35	22

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	9.160	10.000	3.600	22.760	0.672	0.645

## ...MISSION

CONDUCT RESEARCH DEVELOPMENT TEST & EVALUATION & PROVIDE ENGINEERING SUPPORT IN CLOTHING TEXTILES & RELATED FIELDS ASSOCIATED WITH SERVICE CLOTHING & ENVIRONMENTAL PROTECTIVE CLOTHING

## ...CURRENT IMPORTANT PROGRAMS

BATTLE DRESS CLOTHING  
MATERIALS INVESTIGATIONS TO MEET NAVY CLOTHING REQUIREMENTS  
PROTECTIVE CLOTHING FOR HAZARDOUS ENVIRONMENTS  
LIFE SUPPORT SYSTEMS FOR PROTECTIVE CLOTHING  
OCCUPATIONAL & SAFETY FOOTWEAR

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

HYDRO-ENVIRONMENT TEMPERATURE LAB, AIR CHAMBER-MARINE TANK REPRODUCES AIR-SEA TEMP CONDITIONS FOR WATER IMMERSION PHYSIOLOGY & BUOYANCY TESTS.  
ENVIRONMENTAL TEST CHAMBER FOR EVALUATING PROTECTIVE CLOTHING UNDER WORK STRESS & EXTREME TEMPERATURES.  
INSTRUMENTED THERMAL MANIKIN FOR DETERMINING THERMAL INSULATION OF CLOTHING IN WET & DRY ENVIRONMENTS.  
THERMAL FLAMMABILITY APPARATUS FOR CONDUCTING FLAME RETARDANCY, FLAMMABILITY & HEAT RESISTANCE MATERIAL TESTING.  
CHEMICAL & PHYSICAL TESTING EQUIPMENT FOR CONDUCTING RDT&E ON FABRICS, YARNS, FIBERS, LEATHER, PLASTICS, RUBBER, DYES, & FINISHES.  
SEWING MACHINES & PATTERN DRAFTING FOR DEVELOPING GARMENTS.

C.O. CAPT. R. D. BENNETT

TECH. DIR. MR. G. C. DILWORTH, JR.

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	36.612	55.660
TOTAL PROCUREMENT	10.672	2.353
TOTAL O&M	8.148	9.247
TOTAL OTHER	7.143	5.932
TOTAL ANNUAL LAB	62.575	73.192
TOTAL INHOUSE	33.930	35.623
TOTAL INHOUSE RDT&E	21.424	22.705
ANNUAL OPERATING COST	12.217	15.361

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	115	0	13	102
CIVILIAN	627	26	293	334
TOTAL	742	26	306	436

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
665	341.198	44.891	364.688	750.777	44.372	20.756

## ...MISSION

TO BE THE PRINCIPAL NAVY ACTIVITY FOR CONDUCTING RDT&E IN SUPPORT OF NAVAL MISSIONS AND OPERATIONS THAT TAKE PLACE PRIMARILY IN THE COASTAL REGIONS.

## ...CURRENT IMPORTANT PROGRAMS

MINE COUNTERMEASURES  
TORPEDO AND SONAR COUNTERMEASURES  
DIVING, SALVAGE, AND SPECIAL WARFARE  
COASTAL WARFARE  
COASTAL TECHNOLOGY

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

FACILITIES INCLUDE- OCEAN SIMULATION FAC TO 2250' DEPTH. HYDROSPACE LAB. SWIMMER/DIVER R&D FAC. GAS ANALYSIS LAB. SONAR TEST BED. MAGNETIC TARGET DETECTION & CLASSIFICATION RANGE. MAGNETIC LAB. OPTICAL POSITIONING SYS. TWO UNMANNED OFFSHORE SENSOR/INSTRUMENTATION PLATFORMS. CALIBRATION AND STANDARDS FAC. MECHANICAL CALIBRATION LAB. CABLE TEST FAC. ACOUSTIC TEST FAC. TRANSDUCER LAB. PRECISION ACOUSTIC TANK. ACOUSTIC ANAL FAC. SYSTEMS DEVELOPMENT AND TEST FAC. ELECTRONIC TRACKING RANGE, PORTABLE TRACKING & POST RUN ANALYSIS SYS. COUNTERMEASURES EVALUATOR IN REAL-TIME SIMULATION BURROUGHS 6810 DIGITAL COMPUTER AND ASSOCIATED DATA COMMUNICATIONS SYS. ENVIRONMENTAL MONITORING FAC. SONAR PROCESSING FAC WITH DATA COLLECTION SYS. PIER SPACE & BOATS TO INCLUDE RESEARCH VESSELS ATHENA I&II, MSO-443 USS FIDELITY. INDUSTRIAL SHOPS. HELIPORT COMPLEX WITH 2 RH53D & 1 UHIE.

C.O. CDR. B. F. TIBBITTS

TECH. DIR. DR. A. POWELL

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	160.858	174.740
TOTAL PROCUREMENT	17.203	12.692
TOTAL O&M	23.639	21.224
TOTAL OTHER	6.301	7.273
TOTAL ANNUAL LAB	208.001	215.929
TOTAL INHOUSE	90.362	97.907
TOTAL INHOUSE RDT&E	72.175	80.681
ANNUAL OPERATING COST	36.866	49.687

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	77	1	27	50
CIVILIAN	2455	123	1157	1298
TOTAL	2532	124	1184	1348

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
324	1711.000	107.000	276.000	2094.000	73.759	81.244

## ...MISSION

TO BE THE PRINCIPAL NAVY RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (RDT&E) CENTER FOR NAVAL VEHICLES AND LOGISTICS AND TO PROVIDE RDT&E SUPPORT TO THE U.S. MARITIME ADMINISTRATION AND THE MARITIME INDUSTRY.

## ...CURRENT IMPORTANT PROGRAMS

SUBMARINE/SURFACE SHIP SILENCING (ACOUSTIC/NON-ACOUSTIC/MACHINERY) SURFACE SHIP SURVIVABILITY (DETECTION REDUCTION/SURVIVABLE STRUCTURES/DAMAGE CONTROL) SURFACE SHIP MACHINERY/ELECTRIC DRIVE/INTEGRATED MACHINERY, SUPPORT NEW SSN DESIGN (HYDRODYNAMICS/STRUCTURES/CONTROL/PROPULSORS/ACOUSTICS) AERODYNAMICS (CIRCULATION CONTROL ROTORS & WINGS).

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR EQUIPMENT/FACILITY CAPABILITIES: SHALLOW AND DEEP WATER TOWING BASINS, MANEUVERING AND SEAKEEPING BASIN, ROTATING ARM BASIN, WATER AND WIND TUNNELS, STRUCTURAL EVALUATION, UNDERWATER EXPLOSIONS BARGE, FUELS LAB, PRESSURE TANKS, SUBMARINE INTERNAL FLUID DYNAMICS, TURBO-ELECTRIC PROPULSION LAB, ELECTRIC POWER/GENERATION/DISTRIBUTION, FABRICATION TECHNOLOGY, MAGNETIC FIELDS LAB, MACHINERY SYSTEMS SIMULATION, MACHINERY DEVELOPMENT, WELDING DEVELOPMENT, PAINT DEVELOPMENT, HIGH-PRESSURE TEST FACILITY, METALLURGICAL CHARACTERIZATION AND EVALUATION, ENVIRONMENTAL PROTECTION, NOISE MEASUREMENT, ELECTRIC PROPULSION TEST CRAFT, ANECHOIC FLOW FACILITY, TRIBOLOGY, METROLOGY, CORROSION, FIRE FIGHTING, IR/RCS, SCIENTIFIC COMPUTER FACILITY, UNIVERSAL TESTING MACHINES, ACOUSTIC DATA ANALYSIS, MOBILE NOISE BARGE, HIGH SPEED TOWING CARRIAGE.

INSTALLATION: DENTAL RESEARCH INSTITUTE.

GREAT LAKES, IL.

C.O. CAPT. G. E. CLARK

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	0.893	1.074
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	0.879	0.914
TOTAL ANNUAL LAB	1.772	1.988
TOTAL INHOUSE	1.664	1.876
TOTAL INHOUSE RDT&E	0.785	0.962
ANNUAL OPERATING COST	0.360	0.420

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	29	10	15	14
CIVILIAN	15	4	7	8
TOTAL	44	14	22	22

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	21.264	6.001	9.318	36.583	0.000	0.777

...MISSION

TO CONDUCT RESEARCH DEVELOPMENT TEST AND EVALUATION IN DENTAL AND ALLIED SCIENCES WITH PARTICULAR EMPHASIS ON PROBLEMS OF DENTAL AND ORAL HEALTH IN NAVY AND MARINE CORPS POPULATIONS AND ON PROBLEMS OF FLEET AND FIELD DENTISTRY

...CURRENT IMPORTANT PROGRAMS

THE PATHOGENESIS OF ORAL DISEASES  
DEVELOPMENT OF METHODS FOR PREVENTING ORAL DISEASES AND DENTAL EMERG.  
COMPUTER ASSISTED DIAGNOSIS OF DENTAL EMERGENCIES  
DESIGN AND DEVELOPMENT OF AN ORAL EPIDEMIOLOGY INFO SYSTEM  
DEVELOPMENT OF A MARINE CORPS EXPEDITIONARY DENTAL SHELTER

...FUNCTIONS/EQUIPMENT/CAPABILITIES

AMINO ACID ANALYZER/ATOMIC ABSORPTION/UNIT/LIQUID SCINTILATION COUNTER/  
MIN COMPUTER/GAS CHROMATOGRAPH UNIT/PHOTOMICROSCOPE/FIVE DENTAL UNITS/  
SIX DENTAL CHAIRS/ELECTRON MICROSCOPE/CRYOMICROTOME/DIAZO PROCESSER/  
SPECTROPHOTOMETERS/ORAL SURGERY CHAIR/THERMAL BALANCE/VIVARIUM/ANIMAL  
SURGERY ROOM/XRAY EQUIPMENT/RPM INSTRUMENTS/SOUND METERS/ANAEROBIC CHAM  
BER/SHAKERS/INCUBATORS/CENTRIFUGES/BIOLOGICAL SAFTY CABINET/FRACTIONA-  
TORS/RECORDERS/FIELD DENTAL EQUIPMENT/PROTOTYPE SHOP/PROTOTYPE MARINE  
CORPS EXPEDITIONARY DENTAL SHELTER/PHOTO LAB/OSCILLISCOPE/EQUIPMENT  
REPAIR SHOP/TISSUE CULTURE

**INSTALLATION: ENVIRONMENTAL PREDICTION RESEARCH FACILITY MONTEREY, CA.**

**C.O. CAPT. K. L. VANSICKLE**

**DIR. OF RSCH. DR. A. WEINSTEIN**

PROGRAM	PROGRAM DATA BY FISCAL YEAR (MILLION \$)	
	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	5.734	6.252
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.096	0.200
TOTAL OTHER	0.388	0.395
TOTAL ANNUAL LAB	6.218	6.847
TOTAL INHOUSE	2.475	4.104
TOTAL INHOUSE RDT&E	2.091	3.668
ANNUAL OPERATING COST	0.910	0.950

PERSONNEL	PERSONNEL DATA (END OF FY 1982)			
	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	14	0	4	10
CIVILIAN	32	8	35	3
TOTAL	46	8	39	13

ACRES	SPACE AND PROPERTY				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	1.362	4.858	10.594	16.814	0.000	1.370

**...MISSION**

CONDUCT RESEARCH & DEVELOPMENT DIRECTED TOWARD PROVIDING OBJECTIVE LOCAL REGIONAL AND GLOBAL ENVIRONMENTAL ANALYSIS & PREDICTION TECHNIQUES.  
PROVIDE PLANNING, MODELING & EVALUATION SERVICES TO DETERMINE THE EFFECT OF-ENVIRONMENTAL ELEMENTS ON NAVAL WEAPON SYSTEMS

**...CURRENT IMPORTANT PROGRAMS**

DEVELOP SYSTEM FOR PROCESS/DISPLAY OF ENVIRONMENTAL SATELLITE DATA  
DEVELOP COMPUTER MODELS WHICH ANALYZE/ASSIMILATE ATMOSPHERIC DATA  
DEVELOP TECHNIQUES PREDICT/DIAGNOSE ATMOS EFFECTS ON WEAPONS SYSTEMS  
DEVELOP OBJECTIVE LOCAL/REGIONAL ATMOS ANALYSIS/PREDICTION TECHNIQUES  
DEVELOP SYNOPTIC/SUBSYNOPTIC & MESOSCALE ATMOS PREDICTION MODELS

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

CAPABILITY OF RECEIVING, ENHANCING AND ANALYZING REMOTELY SENSED ATMOS DATA  
CAPABILITY OF BUILDING, ANALYZING AND MODIFYING GLOBAL, REGIONAL AND LOCAL WEATHER MODELS  
CAPABILITY TO DEVELOP ATMOS PREDICTION AIDS FOR USE BY NON-GRADUATE METEOROLOGICAL PERSONNEL  
ECLIPSE S250 COMPUTER ACCESS TO CYBER 203 AND 175 COMPUTERS



C.O. CAPT. R. M. DUNBAR

TECH. DIR. MR. L. A. DICKINSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	7.474	8.450
TOTAL PROCUREMENT	1.958	1.560
TOTAL O&M	1.367	0.780
TOTAL OTHER	2.783	1.278
TOTAL ANNUAL LAB	13.582	12.068
TOTAL INHOUSE	7.628	6.396
TOTAL INHOUSE RDT&E	4.526	4.522
ANNUAL OPERATING COST	4.179	4.499

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	40	0	9	31
CIVILIAN	164	3	47	117
TOTAL	204	3	56	148

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1172	85.397	19.880	27.460	132.737	4.891	4.201

...MISSION

CONDUCT RESEARCH DEVELOPMENT TEST AND EVALUATION CONCERNING BOTH THE DISPOSAL AND RENDERING-SAFE PROCEDURES FOR CONVENTIONAL AND SPECIAL WEAPONS GUIDED MISSILES UNDERWATER WEAPONS EXPLOSIVES BIO AND CHEM. MUNITIONS BOTH U.S. AND FOREIGN PLUS THE REQUIRED TOOLS AND EQUIPMENT.

...CURRENT IMPORTANT PROGRAMS

DEVELOPMENT OF RENDER SAFE AND DISPOSAL TOOLS FOR CONVENTIONAL MUNITIONS  
DEVELOPMENT OF RENDER SAFE AND DISPOSAL PROCEDURES  
IMPROVISED NUCLEAR DEVICE COUNTERMEASURES  
TERRORIST DEVICE COUNTERMEASURES  
EXPLOSIVE RANGE CLEARANCE TECHNIQUES

...FUNCTIONS/EQUIPMENT/CAPABILITIES

DEVELOP EXPLOSIVE ORDNANCE DISPOSAL -EOD- PROCEDURE. PREPARE AND PUBLISH EOD PUBLICATIONS FOR JOINT-SERVICE USE. CONDUCT EXP AND ADV DEVELOPMENT LEADING TO SPECIALIZED TOOLS AND EQUIP. NEEDED TO LOCATE, IDENTIFY, RECOVER, RENDER-SAFE AND DISPOSE OF ALL TYPES OF EXPLOSIVE ORDNANCE. PREPARE AND MAINTAIN DOCUMENTATION FOR EOD TOOLS AND EQUIP. CONDUCT FIRST ARTICLE INSPECTION ON EOD TOOLS BEING PROCURED FOR ALL SERVICES. CONDUCT IN-SEARCH ENGINEERING FUNCTIONS FOR EOD AND SWIMMER WEAPONS SYSTEM TOOLS. CONDUCT INITIAL EVALUATION OF FOREIGN EXPLOSIVE ORDNANCE. MAINTAIN STOCK AND ISSUE EOD PUBLICATIONS FOR JOINT-SERVICE USE. CAPABILITY OF TESTING EOD TOOLS TO A DEPTH OF 400 FT IN A DIVING CHAMBER. CAPABILITY OF ANALYZING HIGH SPEED EVENTS WITH FLASH X-RAYS AND PHOTOS.

C.O. CAPT. JESSE E. LANG

CH. SCI. DR. L. C. JOHNSON

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.761	3.198
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	0.919	0.975
TOTAL ANNUAL LAB	3.680	4.173
TOTAL INHOUSE	3.170	3.513
TOTAL INHOUSE RDT&E	2.251	2.538
ANNUAL OPERATING COST	0.911	1.364

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	31	7	14	17
CIVILIAN	62	10	24	38
TOTAL	93	17	38	55

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	19.052	7.159	0.000	26.211	0.147	0.918

## ...MISSION

CONDUCT RSCH AND DEVELOPMENT ON MEDICAL AND PSYCHOLOGICAL ASPECTS OF HEALTH AND PERFORMANCE OF NAVAL SERVICE PERSONNEL AND TO PERFORM SUCH OTHER FUNCTIONS OR TASKS AS MAY BE DIRECTED BY CHIEF BUMED

## ...CURRENT IMPORTANT PROGRAMS

EVAL OF HLTH RISKS FOR NAVY OCCUPATIONS  
IMPROVEMENT METHOD FOR IDENTIFYING VIRAL INFECTIOUS DISEASES IN MIL PERS  
HUMAN PERF EFFECTIVENESS&PHYSIOLOGICAL ADAP DURING SUSOPS  
DEVELOPMENT OF STANDARDS FOR OBESITY & PHYS FITNESS AMONG NAV PERS  
DEVELOPMENT & PILOT TESTING OF NAVY OCCUPATIONAL INFO MONITORING SYS

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

ELECTROENCEPH MONITORING OF SLEEP PATTERNS  
CARDIOVASCULAR STRESS LAB  
MUSCLE STRENGTH TESTING LAB  
CARDIOIMMUNO - ASSAY CAPABILITY  
SERUM AUTO-ANALYSIS  
MICROBIOLOGY DIAGNOSTIC KITS  
COMPUTER STORAGE - TOTAL USN/USMC HEALTH DATA  
COMPLETE HEALTH DATA FOR ENLISTED WOMEN  
BLOOD GAS MONITORING DURING AWAKE/ASLEEP

C.O. CAPT. J. VOROSMARTI

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	13.442	11.997
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.069	0.177
TOTAL OTHER	5.676	5.404
TOTAL ANNUAL LAB	19.187	17.578
TOTAL INHOUSE	17.539	17.578
TOTAL INHOUSE RDT&E	11.895	11.997
ANNUAL OPERATING COST	6.939	7.915

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	244	63	80	164
CIVILIAN	187	35	75	112
TOTAL	431	98	155	276

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
4	159.933	11.720	47.210	218.863	6.536	11.987

## ...MISSION

CONDUCT BASIC & APPLIED RESEARCH & DEVELOPMENT CONCERNED WITH THE HEALTH SAFETY & EFFICIENCY OF NAVY AND MARINE CORPS PERSONNEL.

## ...CURRENT IMPORTANT PROGRAMS

COMBAT CARE. TECHNOLOGY WOUND HEALING. SHOCK TISSUE TRANSPLANTATION. MICROBIOLOGY. VACCINE DEV. RAPID DIAGNOSIS EPIDEMIOLOGY. HYPERBARIC MEDICINE PHYSIOLOGY TREATMENT SAFETY ENVIRONMENTAL, STRESS THERMAL, ELECTROMAGNETIC, TOXIC. BONE MARROW TRANSPLANTATION. STEM CELLS GROWTH FACTORS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

HYPERBARIC RESEARCH FACILITY WITH MAN-RATED HYPERBARIC CHAMBERS. HUMAN PHYSIOLOGICAL & HEAT STRESS EQUIPMENT & FACILITIES. HUMAN TISSUE PRESERVATION & STORAGE EQUIPMENT & FACILITIES. BIOHAZARDOUS MATERIALS HANDLING LAB EQUIPMENT & FACILITIES. TOXICOLOGY EVALUATION EQUIP & FACILITIES INCLUDE HYPERBARIC CHAMBERS. TRANSMISSION & SCANNING ELECTRON MICROSCOPES FLUORESCENT ANTIBODY CELL SORTER & COMPUTERS. EXPERIMENTAL ANIMAL FACILITIES ANIMAL HOUSE & OPERATING ROOMS LAB EQUIPMENT & FACILITIES FOR BASIC & APPLIED BIOCHEMICAL MICROBIOLOGICAL & PSYCHOLOGICAL & TRANSPLANTATION STUDIES

C.O. CAPT. W. H. SCHROEDER

SCI. DIR. DR. J. H. CROSS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982	1983
	(ACTUAL)	(ACT + EST)
TOTAL RDT&E	1.806	1.472
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	0.390	0.445
TOTAL ANNUAL LAB	2.196	1.917
TOTAL INHOUSE	2.196	1.917
TOTAL INHOUSE RDT&E	1.806	1.472
ANNUAL OPERATING COST	0.555	0.620

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED	TOTAL	TOTAL	NON-
	STRENGTH	PHDS	PROF	PROF
MILITARY	30	7	11	19
CIVILIAN	58	4	25	33
TOTAL	88	11	36	52

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	9.950	6.500	0.000	16.450	0.000	0.538

...MISSION

TO CONDUCT RESEARCH AND DEVELOPMENT ON INFECTIONS DISEASES OF MILITARY IMPORTANCE THAT ARE ENDEMIC OR EPIDEMIC IN THE ASSIGNED GEOGRAPHIC AREAS TO PERFORM SUCH OTHER FUNCTIONS OR TASKS AS MAY BE DIRECTED BY CHIEF, BUREAU OF MEDICINE AND SURGERY.

...CURRENT IMPORTANT PROGRAMS

CONDUCTS RESEARCH ON TROPICAL COMMUNICABLE DISEASES TO INCLUDE MALARIA, AMEBIASIS, PARASITIC DISEASES, ARTHROPOD VECTOR DISEASES AND DIARRHEA. EMPHASIS IS ON DIAGNOSIS, PREVENTION, AND TREATMENT OF TROPICAL INFECTIONS DISEASES AND THEIR GEOGRAPHIC EPIDEMIOLOGY.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

AUTOCLAVES; LAMINAR FLOW BIOLOGICAL SAFETY CABINETS; AIR AND CO2 INCUBATORS; FLUORESCENT AND COMPOUND MICROSCOPES; DISECTING MICROSCOPES; ZEISS PHOTOMICROSCOPE; SUPERSPEED- AND ULTRACENTRIFUGES; LIQUID SCINTILLATION COUNTER; COULTER COUNTER; ULTRAFLOW TEMPERATURE FREEZERS; SPECTROPHOTOMETERS; FRACTION COLLECTORS; ELISA READER; IBM 1130 COMPUTER; INSECTORY; ANIMAL PRODUCTION FACILITIES; CELL CULTURE FACILITIES; FACILITIES IN INDONESIA INCLUDE 10000 SQUARE FEET FOR ALL SPACES.

**C.O. CAPT. CRAIS K. WALLACE**
**SCI. DIR. DR. AFTAB A. ANSARI**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.535	3.357
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.118	0.195
TOTAL OTHER	0.789	0.820
TOTAL ANNUAL LAB	3.441	4.372
TOTAL INHOUSE	3.441	4.372
TOTAL INHOUSE RDT&E	2.535	3.357
ANNUAL OPERATING COST	0.880	0.960

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	31	10	11	20
CIVILIAN	203	16	31	172
TOTAL	234	26	42	192

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
5	53.050	8.962	61.072	123.084	1.587	0.935

**...MISSION**

TO CONDUCT RESEARCH, DEVELOPMENT, TEST AND EVALUATION RELATING TO THE HEALTH, SAFETY, AND PERFORMANCE OF NAVAL PERSONNEL ASSIGNED TO SOUTHWEST ASIA AND AFRICA, AND TO PERFORM SUCH OTHER FUNCTIONS AS MAY BE DIRECTED BY THE CHIEF, BUREAU OF MEDICINE AND SURGERY.

**...CURRENT IMPORTANT PROGRAMS**

EPIDEMIOLOGY AND PREVALENCE OF MILITARY RELEVANT INFECTIOUS DISEASES IN SOUTHWEST ASIA AND AFRICA  
THERAPY OF INFECTIOUS DISEASE IN SOUTHWEST ASIA  
RAPID AND EARLY DIAGNOSIS OF INFECTIOUS DISEASES OF MILITARY IMPORTANCE IN SOUTHWEST ASIA

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

LECTURESCOPE MODEL LS-2 WITH VERTICAL ILLUMINATOR, OILFIRED PORTABLE HOT HIGH PRESSURE CLEANER, ROTARY MICROTOME, AUTOMATIC MICROTOME KNIFE SHARP ENER, HAEMA COUNTING SYSTEM, FREEZING CHAMBER, BIOGARD HOODS, ABSORBANCE MONITOR WITH STAND AND FLOW CELL, REFRIGERATED FRACTION COLLECTOR SYSTEM WITH SAMPLE PROGRAMMER, LABCONCO GLOVE BOX, INCUBATOR SINGLE CHAMBER, ULTRACENTRIFUGE, MICROSCOPE B&L COMPOUND, MICROSCOPE BALPAN, TRINOCULAR MICROSCOPE, MICROSCOPE AO COMPOUND, COULTER COUNTER ZBI, DAMON/IEC CENTRIFUGE WITH SWINGING BUCKET HEAD, ULTRA LOW REVCOS, FLUORESCENT MICROSCOPES EQUIPPED FOR EPIFLUORESCENCE, PICKER MAGNA SCANNER, DENTAL UNIT, CAVITRON, GE XRAY, HIGH PRESSURE LIQUID CHROMATOGRAPH, PROGRAMMABLE CONTROLLER, ELISA READER, ANAEROBIC CHAMBER, LIQUID SCINTILLATION AND GAMMA COUNTERS, ANIMAL PRODUCTION FACILITY, PATIENT WARDS, PUB WORKS FACILITY.

**C.O. CAPT. G. T. PHELPS**
**TECH. DIR. DR. J. E. ANDREWS**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	40.640	43.547
TOTAL PROCUREMENT	0.100	0.089
TOTAL O&M	0.492	0.534
TOTAL OTHER	0.717	0.832
TOTAL ANNUAL LAB	41.949	45.002
 TOTAL INHOUSE	 16.523	 17.796
TOTAL INHOUSE RDT&E	15.437	16.564
ANNUAL OPERATING COST	5.608	6.848

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	14	1	11	3
CIVILIAN	312	66	176	136
TOTAL	326	67	187	139

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
5	51.002	23.881	83.069	157.952	10.048	8.502

**...MISSION**

TO CARRY OUT A BROAD BASED RDT&E PROGRAM IN OCEAN SCIENCE AND TECHNOLOGY WITH EMPHASIS ON UNDERSTANDING OCEAN PROCESSES THROUGH MEASUREMENT AND ANALYSIS, AND THE EFFECTS OF THIS OCEAN ENVIRONMENT ON NAVY SYSTEMS AND OPERATIONS.

**...CURRENT IMPORTANT PROGRAMS**

ACOUSTIC BOTTOM INTERACTION TO SUPPORT SURV/TACTICAL SYS DEV/PERF. HIGH FREQUENCY ACOUSTICS TO SUPPORT WEAPONS/MINES/MINE COUNTERMEASURE SYS DEV /PERF. REMOTE SENS MESOSCALE OCEAN/OCEAN DYNAMICS TO SUPPORT OCEAN PRE-DICT. ARCTIC R&D TO SUPPORT NAVOPS. SEA STATE SPECTRAL/WAVE RESEARCH TO SUPPORT SHIP HULL DESIGN. MARINE BIO TO SUPPORT MATERIALS DEVELOPMENT.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

WAVE CURRENT INTERACTION SIMULATOR FACILITY. INTERACTIVE DIGITAL SATEL-LITE IMAGE PROCESSING SYS TO HANDLE DATA FROM ALL IMAGING SATELLITES. DEEP OCEAN SEDIMENT CORE & DREDGE SAMPLE DEPOSITORY--1728 SF. VEKA, A MULTI-PURPOSE HYDROPHONE PRESSURE SENSOR KEVLOR ARAY, CAN BE DEPLOYED IN VARIOUS MODES FOR EXPERIMENT MEASUREMENTS. X-RAY FLUORESCENT, TRANSMISSION & SCANNING ELECTRON MICROSCOPE FACILITY, GEOTECHNICAL LABORATORY.

**C.O. CAPT. J. M. PATTON**
**TECH. DIR. DR. H. L. BLOOD**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	214.350	242.142
TOTAL PROCUREMENT	45.012	34.504
TOTAL O&M	59.001	66.523
TOTAL OTHER	15.200	17.104
TOTAL ANNUAL LAB	333.563	360.273
TOTAL INHOUSE	156.153	177.699
TOTAL INHOUSE RDT&E	104.067	118.880
ANNUAL OPERATING COST	53.041	60.424

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	272	3	50	222
CIVILIAN	2454	173	1293	1161
TOTAL	2726	176	1343	1383

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
2751	1281.500	206.990	231.311	1719.801	59.064	134.739

**...MISSION**

TO BE THE PRINCIPAL NAVY RESEARCH, DEVELOPMENT, TEST AND EVALUATION CENTER FOR COMMAND CONTROL, COMMUNICATIONS, OCEAN SURVEILLANCE, SURFACE AND AIR LAUNCHED UNDERSEA WEAPON SYSTEMS, SUBMARINE ARCTIC WARFARE AND SUPPORTING TECHNOLOGIES.

**...CURRENT IMPORTANT PROGRAMS**

OCEAN SURVEILLANCE SYS WITH SOSUS UPDATE AND MULTI-SENSOR INTEGRATION, COMMAND CONTROL AND COMMUNICATIONS SYS ARCHITECTURE AND ENGINEERING, ADVANCED SURFACE AND AIR LAUNCHED UNDERSEA WEAPONS AND SURFACE ASW SYS, TECHNOLOGY DEVELOPMENTS SUCH AS ADV MARINE BIO SYS, ARCTIC SUB OPS, OCEAN ENGINEERING, ELECTRONIC WARFARE AND ARTIFICIAL INTELLIGENCE.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

CENTER FACILITIES INCLUDE ARCTIC RESEARCH FACILITY; C3 SITE, INCLUDING TACTICAL FLAG COMMAND CENTER (TFCC) AND ADVANCED COMMAND CONTROL ARCHITECTURE TEST BED (ACCAT); OCEAN SURVEILLANCE FACILITY; INTEGRATED UNDERSEA SURVEILLANCE SYSTEM (IUSS) FACILITY; MICROWAVE AND MILLIMETER WAVE ANTENNA PATTERN RANGE COMPLEX; OCEANOGRAPHIC RESEARCH TOWER; STABLE SEMI-SUBMERGED PLATFORM; UNMANNED TETHERED VEHICLES INCL CURV III, SCAT, AND SNOOPY; USS DOLPHIN, EXPERIMENTAL SUB; TRANSDUCER EVALUATION CENTER; MICRO-ELECTRONICS LAB COMPLEX; ACOUSTIC SIGNAL DATA ANALYSIS AND CONVERSION SYSTEM; SIMULATION AND REAL-TIME COMPUTER FACILITIES FOR DEVELOPMENT OF OCEAN SURVEILLANCE AND ASW SYSTEMS; SHIP MOTION SIMULATOR AND A BIO-SCIENCE FACILITY ENGAGED IN RESEARCH, TRAINING AND HANDLING OF MARINE MAMMALS.

C.O. RADM L. S. KOLLMORGEN

TECH. DIR. DR. JEROME A. SMITH

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	423.808	527.677
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	63.762	67.498
TOTAL OTHER	5.160	5.431
TOTAL ANNUAL LAB	492.730	600.606
TOTAL INHOUSE	19.280	21.211
TOTAL INHOUSE RDT&E	17.513	19.398
ANNUAL OPERATING COST	12.695	14.046

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	34	3	31	3
CIVILIAN	399	65	89	310
TOTAL	433	68	120	313

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	0.000	81.270	2.400	83.670	0.000	0.000

...MISSION

RESPONSIBLE FOR LEADERSHIP OF NAVY RESEARCH PROGRAM, MANAGEMENT AND DIRECTION OF ONR CONDUCTED RDT&E AND OF THE NAVY-WIDE PATENT PROGRAM. DEVELOPMENT OF NAVY-WIDE RDT&E FOR ASN(RES), WORLD WIDE RESEARCH INFO AND CONTRACT MGMT OF FEDERALLY FUNDED UNIVERSITY RESEARCH.

...CURRENT IMPORTANT PROGRAMS

CONTRACT RESEARCH AND TECHNOLOGY PROGRAMS.  
NAVY PATENT PROGRAM.  
NAVY-WIDE RDT&EN APPROPRIATION ADMINISTRATION.  
FOCAL POINT FOR WORLD-WIDE RESEARCH INFORMATION.  
CONTRACT MANAGEMENT PROGRAM AT EDUCATIONAL INSTITUTIONS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ADMINISTRATION OF RESEARCH PROGRAMS IN PHYSICAL SCIENCES, MATHEMATICAL AND INFORMATION SCIENCES, BIOLOGICAL SCIENCES, PSYCHOLOGICAL SCIENCES, ARCTIC AND EARTH SCIENCES, MATERIAL SCIENCES, OCEAN SCIENCE & TECHNOLOGY. ADMINISTRATION OF TECHNOLOGY PROGRAMS IN NAVAL VEHICLE AND WEAPONS TECHNOLOGY, SENSOR AND CONTROL TECHNOLOGY, ANALYSIS AND SUPPORT. FIELD ACTIVITIES INCLUDE NRL AND NORDA IN FY1982. MAINTAINS RESEARCH RESERVE PROGRAM. COORDINATES NAVAL RESEARCH AND PROMOTES COOPERATIVE RESEARCH EFFORTS WITHIN NAVY, OTHER DOD, NSF, NASA, DEPT OF ENERGY AND OTHER GOVERNMENT RESEARCH GROUPS. SUPPORT AND ADMINISTRATION OF NAVAL RESEARCH ADVISORY COMMITTEE.



C.O. CAPT. J. W. PATTERSON

TECH. DIR. MR. J. P. DOLAN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	5.208	13.085
TOTAL PROCUREMENT	0.259	0.000
TOTAL O&M	0.012	0.000
TOTAL OTHER	2.525	3.117
TOTAL ANNUAL LAB	8.004	16.202
TOTAL INHOUSE	4.353	5.961
TOTAL INHOUSE RDT&E	2.566	3.956
ANNUAL OPERATING COST	1.366	2.139

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	86	0	14	72
CIVILIAN	54	0	10	44
TOTAL	140	0	24	116

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
95	9.372	25.131	180.078	214.581	5.723	2.339

...MISSION

SUPPORT THE NAVY GUIDED MISSILE AND RESEARCH ROCKET PROGRAMS INCLUDING  
GROUND AND FLIGHT TESTING. ASSIST JOINT SERVICE LASER GUIDED WEAPONS  
COUNTERMEASURE TEST. PARTICIPATE IN THE OPERATION OF THE DOD  
INTEGRATED MISSILE TEST RANGE AT WHITE SANDS

...CURRENT IMPORTANT PROGRAMS

STANDARD MISSILE I AND 2/AEGIS FLIGHT TESTING  
CRUISE MISSILE FLIGHT TESTING  
RAM FLIGHT TESTING  
VERTICAL LAUNCHER TESTING  
UPPER ATMOSPHERE RESEARCH ROCKET LAUNCHING

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FLIGHT TEST TERRIER/TARTAR/STANDARD/SAM GUIDED MISSILES AND PROJECTILES  
LAUNCH VARIOUS SOUNDING ROCKETS FOR UPPER ATMOSPHERIC STUDY  
CONDUCT NAVY AIR WEAPONS TESTS  
LAUNCH VARIOUS ROCKETS IN SUPPORT OF NASA PROJECTS  
LAUNCH VARIOUS ROCKETS IN SUPPORT OF AIR FORCE PROJECTS  
CONDUCT VARIOUS DEVELOPMENT TESTS FOR SSM AND SAM PROJECTS  
PROVIDE DRONE SUPPORT AND VANDAL MISSILE HIGH SPEED TARGETS  
ASSIST IN OPEVAL OF CRUISE MISSILE  
5-INCH GUIDED PROJECTILE LAUNCH CAPABILITY  
PROVIDE WARHEAD AND EOD ANALYSIS ARENA

C.O. PADM J. B. WILKINSON

TECH. DIR. MR. K. I. LICHTI

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	198.918	210.073
TOTAL PROCUREMENT	74.436	65.072
TOTAL O&M	78.568	88.572
TOTAL OTHER	52.085	57.653
TOTAL ANNUAL LAB	404.007	421.370
TOTAL INHOUSE	250.120	268.490
TOTAL INHOUSE RDT&E	139.243	147.051
ANNUAL OPERATING COST	59.497	65.221

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	906	9	227	679
CIVILIAN	3648	12	958	2690
TOTAL	4554	21	1185	3369

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
27084	933.177	371.590	3536.966	4841.733	161.262	149.643

## ...MISSION

PERFORM DEVELOPMENT TEST AND EVALUATION DEVELOPMENT SUPPORT, AND FOLLOW-ON ENGINEERING, LOGISTIC, AND TRAINING SUPPORT FOR NAVAL WEAPONS, WEAPONS SYSTEMS, AND RELATED DEVICES, AND PROVIDE MAJOR RANGE, TECHNICAL AND BASE SUPPORT FOR NAVY RDTE, FLEET, AND OTHER DOD AND GOVT USERS.

## ...CURRENT IMPORTANT PROGRAMS

HARPOON ANTI-SHIP MISSILE  
TOMAHAWK CRUISE MISSILE  
F-14 ADVANCED FIGHTER/PHOENIX MISSILE WEAPON SYSTEM INTEGRATION  
TRIDENT SUBMARINE-LAUNCHED BALLISTIC MISSILE  
AMRAAM MISSILE

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

LABORATORIES FOR AIRBORNE WEAPONS SYSTEMS INTEGRATION, TEST, AND EVALUATION INCLUDING SOFTWARE SUPPORT AND ELECTRONIC WARFARE SYSTEMS. LABS INCLUDE HARDWARE-IN-THE-LOOP SIMULATION, ENVIRONMENTAL TEST/RELIABILITY GROWTH, ANECHOIC MEASUREMENTS, AND ALL UP ROUND TEST. A 32000 SQ MI SEA TEST RANGE PROVIDES FOR FLIGHT TEST OF AIRCRAFT AND MISSILE SYSTEMS. RANGE INSTRUMENTATION INCLUDES C-BAND RADARS, L AND S-BAND TELEMETRY, DATA TRANSMISSION, DISPLAY, AND REDUCTION, AIR AND SEA TARGETS WITH VARIOUS AUGMENTATION, COMMAND CONTROL/FLIGHT TERMINATION, LAUNCH AND RECOVERY, AND COMMUNICATIONS. A 700 SQ MI UNDERWATER RANGE AT BARKING SANDS, HAWAII, PROVIDES FLEET TRAINING SUPPORT IN AIR, SURFACE, AND ASW WARFARE. PMTC AIRCRAFT PROVIDE EXTENSIVE DATA COVERAGE TO TRIDENT PACIFIC TESTS AND TOMAHAWK INLAND FLIGHTS FROM PMTC TO THE UTAH TEST RANGE.

C.O. CAPT. J. F. KELLEY JR

TECH. DIR. DR. J. W. TWEEDDALE

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	18.921	18.147
TOTAL PROCUREMENT	1.870	0.545
TOTAL O&M	2.120	1.970
TOTAL OTHER	1.690	1.736
TOTAL ANNUAL LAB	24.601	22.398
TOTAL INHOUSE	13.768	13.901
TOTAL INHOUSE RDT&E	10.413	11.097
ANNUAL OPERATING COST	4.173	4.649

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	33	0	11	22
CIVILIAN	278	86	212	66
TOTAL	311	86	223	88

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	6.586	9.440	0.000	16.026	0.485	4.812

## ...MISSION

PRINCIPAL NAVY ACTIVITY FOR CONDUCTING HUMAN RESOURCES RDT&E IN THE AREAS OF MANPOWER, PERSONNEL, EDUCATION & TRAINING AND TO SERVE AS THE COORD ACTIVITY FOR ALL SUCH NAVY R&D. PROVIDE SUPPORT TO THE NAVY SYSTEMS COMMANDS TO AUGMENT & STIMULATE HUMAN FACTORS EFFORTS IN NEW SYSTEM DESIGN.

## ...CURRENT IMPORTANT PROGRAMS

MANPOWER MANAGEMENT  
EDUCATION AND TRAINING  
PERSONNEL ADMINISTRATION  
ORGANIZATIONAL MANAGEMENT  
HUMAN PERFORMANCE

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

IBM 4341 COMPUTER SYSTEM WITH COMMUNICATIONS CAPABILITY TO OTHER COMPUTERS, VAX11/780 WITH ARPANET ACCESS WHICH SUPPORTS THE NAVY LABORATORY COMPUTER NETWORK, PDP 11/45, BIOTECHNOLOGY DATA ACQUISITION SYSTEMS, VARIOUS CRT AND PRINTING DEVICES INTERFACING WITH THE NAVAL OCEAN SYSTEMS CENTER UNIVAC 1100/82 COMPUTER

C.O. CAPT. J. A. MCMORRIS II ACTG. DIR. OF RSCH. DR. A. I. SCHINDLER

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	243.161	286.800
TOTAL PROCUREMENT	8.894	7.103
TOTAL O&M	12.739	10.173
TOTAL OTHER	20.887	17.688
TOTAL ANNUAL LAB	285.681	321.764
TOTAL INHOUSE	174.273	192.179
TOTAL INHOUSE RDT&E	146.801	170.000
ANNUAL OPERATING COST	69.285	79.929

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	143	2	32	111
CIVILIAN	3096	670	1520	1576
TOTAL	3239	672	1552	1687

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1009	2313.975	192.677	481.945	2988.597	93.360	116.063

## ...MISSION

TO CONDUCT A BROADLY BASED MULTIDISCIPLINARY PROGRAM OF SCIENTIFIC RESEARCH AND ADVANCED TECHNOLOGICAL DEVELOPMENT DIRECTED TOWARD NEW AND IMPROVED MATERIALS, EQUIPMENT, TECHNIQUES, SYSTEMS, AND RELATED OPERATIONAL PROCEDURES FOR THE NAVY.

## ...CURRENT IMPORTANT PROGRAMS

DIRECTED ENERGY DEVICE  
ADVANCED ECM AND DECOYS FOR NAVY EW SYSTEMS  
ADVANCED ACOUSTIC AND NON-ACOUSTIC SUBMARINE DETECTION PROGRAMS  
SATELLITE PROGRAMS  
ADVANCED HIGH PERFORMANCE MATERIALS

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

PRINCIPAL RESEARCH AND DEVELOPMENT LABORATORY OF THE NAVY. PRIMARY AREAS ARE MATERIALS SCIENCE AND TECHNOLOGY, SPACE SCIENCE AND TECHNOLOGY, RADAR, ELECTRONIC WARFARE, LASER TECHNOLOGY, OPTICS, OPTICAL WARFARE, ELECTRONIC DEVICES, PLASMA AND RADIATION PHYSICS, INTELLIGENCE SUPPORT UNDERSEA SURVEILLANCE, ENVIRONMENTAL SCIENCE AND TECHNOLOGY. MAJOR FACILITIES INCLUDE ONE SHIP FOR ACOUSTIC AND NON-ACOUSTIC ASW RESEARCH BATHYMETRY, AND DEEP OCEAN SEARCH. MAJOR ACOUSTIC STANDARD AND CALIBRATION FACILITIES. HIGH LEVEL RADIATION LABORATORY. ENCLOSED 11,500 CU FT FIRE TEST FACILITY. DIVERSE HIGH ENERGY LASERS. 200 KILOGAUSS HIGH FIELD MAGNET FACILITY. SPACE SIMULATION FACILITIES. ELECTRONIC WARFARE CENTRAL TARGET SIMULATOR.

C.O. CAPT. W. C. MILROY

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.211	1.995
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.020	0.040
TOTAL OTHER	0.923	0.959
TOTAL ANNUAL LAB	3.154	2.994
TOTAL INHOUSE	3.154	2.994
TOTAL INHOUSE RDT&E	2.211	1.995
ANNUAL OPERATING COST	0.815	0.732

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	36	8	13	23
CIVILIAN	55	10	24	31
TOTAL	91	18	37	54

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)			COST (MILLION \$)		
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1	40.514	14.099	0.000	54.613	1.315	1.887

## ...MISSION

TO CONDUCT MEDICAL RESEARCH AND DEVELOPMENT AS IT RELATES TO SUBMARINE, SHIPBOARD, DIVING AND AMPHIBIOUS ENVIRONMENTS.

## ...CURRENT IMPORTANT PROGRAMS

COMPUTER ASSISTED DIAGNOSIS PROGRAMS FOR CORPSMEN ABOARD NUCLEAR SUBS  
AUDITORY AND VISUAL T AND E OF SUBMARINERS AND DIVERS. PHYSIOLOGICAL, PSY-  
CHOLOGICAL RESEARCH IN COLD WEATHER. HUMAN FACTORS VISION AUDITORY RSCH  
IN ADVANCED SONAR SYSTEMS AND HUMAN FACTORS SUB INFO PROCESSING.  
HEALTH AND LONGEVITY OF NUCLEAR SUBMARINE CREWS. NUC SUB ATMOSPHERE EVAL.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

BASIC AND APPLIED RESEARCH COMPETENCE IN CARDIOPULMONARY, THERMAL, AND  
HYPERBARIC PHYSIOLOGY, BIOCHEMISTRY, AUDITION, VISION, HUMAN FACTORS ENG,  
HYPERBARIC AND MECHANICAL SERVICES, ELECTRICAL INSTRUMENTATION AND  
REPAIRS, COMPUTER APPLICATIONS, ANIMAL SCIENCES, TECHNICAL LIBRARY, GRAPHIC  
ARTS, PHOTOGRAPHY, MODEL MAKING, HYPERBARIC CHAMBERS, HUMAN 150 PSI, ANIMAL-  
300 PSI AND 1000 PSI, SURGICAL SUITE, COMPUTER APPLICATION FACILITY,  
CLOSED CIRCUIT TV SYSTEM, GAS CHROMATOGRAPHS, EEG, DOPPLER SYSTEM, SONAR  
SPECTROMETER.

**C.O. CAPT. J. E. FERNANDES**
**TECH. DIR. DR. RONALD S. VAUGHN**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	238.159	251.231
TOTAL PROCUREMENT	88.953	69.694
TOTAL O&M	54.041	47.437
TOTAL OTHER	38.487	33.856
TOTAL ANNUAL LAB	419.640	402.218
 TOTAL INHOUSE	 185.698	 226.785
TOTAL INHOUSE RDT&E	103.870	136.679
ANNUAL OPERATING COST	85.930	99.339

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	113	0	34	79
CIVILIAN	4531	234	2079	2452
TOTAL	4644	234	2113	2531

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
5347	1659.881	176.290	1289.820	3125.991	101.730	143.062

**...MISSION**

THE PRINCIPAL NAVY RESEARCH, DEVELOPMENT, TEST AND EVALUATION CENTER FOR SURFACE SHIP WEAPONS SYSTEMS, ORDNANCE, MINES, AND STRATEGIC SYSTEMS SUPPORT

**...CURRENT IMPORTANT PROGRAMS**

STRATEGIC SYSTEMS-TRIDENT, POSEIDON, MK500, MISSILE MATERIALS, TARGETING. COMBAT SYSTEMS-AEGIS, DDGX, CV/CVN, CGN-38, DDG-993, DD-963, SURF SHIPS. WEAPON SYSTEMS-TOMAHAWK, SM-2, GUIDED PROJECTILE, HI POWER RADIATION. UNDERWATER SYSTEMS-CAPTOR, QUICKSTRIKE MINES, MK 48(ADCAP), WARHEADS. ELECTRONIC SYSTEMS-SLQ-32, SLQ-17, AN/SPY-1, NUCLEAR WPNS EFFECTS, OTH.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

FACILITIES INCLUDE-WIND TUNNELS UP TO MACH 18, 1.75 MILLION GAL. HYDROBALLISTIC TANK, MAGNETIC SILENCING FACILITY, FBM DISCPAC PRODUCTION FACILITY, FACILITIES FOR ASSURANCE OF COMPUTER PROGRAMS FOR STRATEGIC AND TACTICAL MISSILES, INTELLIGENCE PROCESSING SYS, GUN AND MISSILE RANGE INCLUDING LAND-BASED DEVELOPMENT SITES FOR WEAPON CONTROL SYSTEMS, ELECTROMAGNETIC EFFECTS FACILITIES FOR NUCLEAR AND NON-NUCLEAR EFFECTS, FACILITIES FOR WARHEAD CHARACTERIZATION AND DAMAGE TO TARGETS, DEV AND TEST FACILITIES FOR LASER AND ELECTRO-OPTICS SUBSYSTEMS, DEEP WATER OFFSHORE FACILITIES FOR MINE SYS, MOBILE TACTICAL WAR GAMES FAC, EXPLOSIVES DEV FACILITIES, EXTENSIVE SCIENTIFIC COMPUTER FACILITY, FUZES, EXPLOSIVES, MATERIALS AND MARINE CORPS SUPPORT FACILITIES

INSTALLATION: UNDERSEA RANGES DEPARTMENT

NEWPORT, RI.

C.O. CAPT. J. W. AILES

TECH. DIR. MR. EARL MESSERE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	38.082	36.146
TOTAL PROCUREMENT	0.715	0.815
TOTAL O&M	10.254	11.825
TOTAL OTHER	1.795	1.625
TOTAL ANNUAL LAB	50.846	50.411
TOTAL INHOUSE	33.835	26.585
TOTAL INHOUSE RDT&E	32.873	25.555
ANNUAL OPERATING COST	0.000	0.000

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	43	0	5	38
CIVILIAN	45	0	27	18
TOTAL	88	0	32	56

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1042	82.178	12.464	231.135	325.777	26.521	1.496

...MISSION

TO PROVIDE DEEP WATER DEV AND OPRTNL T&E FACLTYS FOR UNDRWTR ACOUSTIC MEASUREMENTS, TESTING, AND CALBRNG SONRS. PROVIDE ACURAT UNDRWTR, SURFACE AND IN-AIR TRACKING DATA ON SHIPS, SUBS, AIRCRAFT AND WEAPON SYSTEMS.

...CURRENT IMPORTANT PROGRAMS

MK48 WEAPON SYSTEMS TRAINING CERTIFICATION PROGRAM  
SHIP SILENCING PROGRAM  
FLEET TRAINING/SUBROC, RANGEX, SHAREM  
TORPEX/RANGEX  
R&D TESTS/CAPTOR/MP SONAR/TOWED ARRAYS/LAMPS/BQQ 5/DICASS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

HIGHLY ADVANCED AND INSTRUMENTED ASW WEAPONS, SONAR, AND FORACS TEST MEASUREMENT RANGES IN SUPPORT OF NAVY ASW AND UNDERSEA R&D PROGRAMS, AND ASW FLEET ASSESSMENT AND OPERATIONAL READINESS.

C.O. CAPT. J. W. AILES IV

TECH. DIR. MR. EARL MESSERE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	211.829	198.972
TOTAL PROCUREMENT	61.417	76.107
TOTAL O&M	109.192	121.670
TOTAL OTHER	9.550	13.081
TOTAL ANNUAL LAB	391.988	409.830
TOTAL INHOUSE	146.755	151.246
TOTAL INHOUSE RDT&E	80.409	84.052
ANNUAL OPERATING COST	47.000	56.618

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	80	0	22	58
CIVILIAN	2675	92	1618	1057
TOTAL	2755	92	1640	1115

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
381	1082.749	260.348	522.881	1865.978	50.660	65.261

...MISSION

TO BE THE PRINCIPAL NAVY RDT&E CTR FOR SUBMARINE WARFARE AND SUBMARINE WEAPON SYSTEMS.

...CURRENT IMPORTANT PROGRAMS

ADVNC'D TECHNGY IN U/W ACOUTCS, INFO PROCSNG, WEAPONRY.  
 DESGN, DEV & EVAL U/W COMBAT SUB SYSTEMS INCODNG SUBACS & SURF SHIP SONAR.  
 RDT&E FOR OVERALL U/W COMBAT (TRIDENT, 688, ETC.).  
 DESGN, DEV&EVAL OF LAUNCHERS, U/W TARGET SYS & MOBILE/FIXD U/W TEST RANGES  
 INTRODUCE TO FLEET AND IN-SERV ENGINEERING OF MK48 & DEV OF MK48 ADCAP.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TECHNLGYS FOR SONAR SYSTEMS (HULL-TOWD/SUB COMCTNS SYSTEMS INTEBRTN/SUB ANTNA SYSTMS). U/W WPN RANGE TECHNLGY/REDINESS OF IN-SERVICE SHIPBOARD U/W SYSTEMS/ASW SUP. TORPEDO TEST RANGES (FIXD/PORTBLE) SHLOW AND DP WTR ASW WPN FIRE CNTRL R&D FACILTY. ASW WPN LAUNCHNG DEVE R&D FACILTY, QLTY ENG, EVAL&RELIABLT LAB. BERMUDA RSCH FACLT, TORPDO PROPULSN TEST FACLT, ELECT MAGNTC FACLT, SYS CERTCTN AND INTBTN FACLT, ACOUSTC MSRMNT & XDCER R&E FACLT, TORPDO TEST RANGE.



C.O. CAPT. J. J. LAHR

TECH. DIR. MR. B. W. HAYS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	225.517	236.923
TOTAL PROCUREMENT	90.894	88.260
TOTAL O&M	38.101	36.894
TOTAL OTHER	34.602	34.569
TOTAL ANNUAL LAB	389.114	396.646
TOTAL INHOUSE	246.860	246.513
TOTAL INHOUSE RDT&E	138.356	157.306
ANNUAL OPERATING COST	59.020	67.333

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	565	0	34	531
CIVILIAN	3970	127	1474	2496
TOTAL	4535	127	1508	3027

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1127122	1637.891	338.473	4194.036	6170.400	233.659	113.438

...MISSION

THE PRINCIPAL NAVY RDT&E CENTER FOR AIR WARFARE SYSTEMS (EXCEPT ANTI-SUBMARINE WARFARE SYSTEMS) AND MISSILE WEAPON SYSTEMS, AND THE NATIONAL RANGE/FACILITY FOR PARACHUTE TEST AND EVALUATION.

...CURRENT IMPORTANT PROGRAMS

ANTI-AIR MSL AIM-9LM SIDEWINDER, AIM/RIM-7F/M SPARROW, ACIMD TECH DEMO ANTI-SURFACE WPNS A/RGM-84 HARPOON, ADV TACTICAL MSL AND MSL COMPONENTS. ELECTRONIC W/F ASM-88 HARM, ALR-67, SIMULATION, EQUIPTS AND TACT EVALS TAC A/C SYS INTEGRATION A-7E, A-6E, AV-8B, FA-18, AIRCREW EQUIPMTS T AND E AIR/SURFACE-LAUNCHED WPNS, TACTICS, A/C WPN SYS, SUB/SYSTEMS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCT IN-HOUSE RESEARCH AND ESTABLISH AND MAINTAIN PRIMARY IN-HOUSE DEVELOPMENT, TEST, EVALUATION, AND IN-SERVICE ENGINEERING SUPPORT FOR SPECIFIC NAVY, MARINE CORPS AND JOINT SERVICE PRODUCTS SUCH AS ANTI-AIR MISSILES, ANTI-SURFACE WEAPONS, DEFENSE PENETRATION SYSTEMS, INTEGRATED TACTICAL AIRCRAFT SYSTEMS. FACILITIES INCLUDE MICHELSON LAB, ELECTRONIC WARFARE THREAT ENVIRONMENT SIMULATION, SOLID STATE DEVICE LAB, ENCOUNTER SIMULATION LAB, PROPULSION RESEARCH LAB, MICROELECTRONICS FACILITY, EXPLOSIVES R&D FACILITIES, GROUND AND AIRCRAFT RANGES, EXTERIOR AND TERMINAL BALLISTICS RANGES, ARMITAGE AIR FIELD, PARACHUTE TEST TOWERS, SUPERSONIC TEST TRACKS, MICROWAVE ANECHOIC FACILITIES, RADIO-FREQUENCY AND INFRARED/ELECTRO-OPTICAL HARDWARE-IN-THE-LOOP SIMULATIONS, AND LASER/ELECTRO-OPTICS LAB.

**C.O. CAPT. R. C. KAUP**
**TECH. DIR. MR. S. R. RANDALL**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	4.468	4.784
TOTAL PROCUREMENT	0.794	0.910
TOTAL O&M	2.396	2.800
TOTAL OTHER	3.611	4.029
TOTAL ANNUAL LAB	11.269	12.523
TOTAL INHOUSE	10.352	11.723
TOTAL INHOUSE RDT&E	3.793	4.284
ANNUAL OPERATING COST	1.464	1.681

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	129	0	25	104
CIVILIAN	107	2	57	50
TOTAL	236	2	82	154

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
7	23.000	34.000	95.000	152.000	9.600	1.776

**...MISSION**

CONDUCT TEST AND EVALUATION PROJECTS ON NUCLEAR AND SELECTED NONNUCLEAR WEAPONS. CONDUCT THE NAVY NUCLEAR WEAPON SAFETY PROGRAM. ASSIST IN BOARD OF INSPECTION AND SURVEY AIRCRAFT TRIALS.

**...CURRENT IMPORTANT PROGRAMS**

6 SAFETY STUDIES. NUCLEAR WPN SAFETY SYMPOS. NUCLEAR SURVIVABILITY PROJECTS. NUCLEAR WPN SYS R&D, OPS&MAINT, WPN AND AIRCRAFT MANUAL REVIEW & REWRITE. 169 MANUALS & LISTS MODIFIED. 16 FLIGHT TEST PROGRAMS. FOREIGN AIRCRAFT PROJECTS. LIGHTNING, EMP, BLAST TEST PROJECTS. HI ENERGY LASER PROJECTS. AIRCRAFT-NUC WPN CERTIFICATION.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

3 A-7, 1 OV-10, AND 1 U-8 AIRCRAFT. 15 ORDNANCE STORAGE LOCKERS. A SECURE STORAGE VAULT. WEAPON LOADING CAPABILITY FOR A WIDE VARIETY OF ORDNANCE. HOT-COLD CHAMBER FOR ORDNANCE TEST. TELEMETRY AND ON-BOARD-AIRCRAFT PHOTO AND TAPE RECORDING EQUIPMENT. PERKIN-ELMER 7/32 COMPUTER. WANG MVP COMPUTER. AS A KIRTLAND AIR FORCE BASE TENANT ACCESS TO THE CRAY-2, CYBER 176, AND CDC 6600 COMPUTERS, ALECS, ARES, TRESTLE, AND OTHER EMP FACILITIES. GENERAL SEVERE ENVIRONMENT FACILITIES. HIGH ENERGY LASER LAB INCLUDING THE AIRBORNE LASER LAB. SHOCK-BLAST FACILITY. NEARBY ARE THE FOLLOWING. WHITE SANDS MISSILE RANGE, SANDIA LABS, LOS ALAMOS NATIONAL LAB, ALL WITH AVAILABLE EXTENSIVE TEST FACILITIES. AT NWEF THE FOLLOWING CAPABILITIES- NUCLEAR WEAPON SAFETY AND BIS. WEAPON CHECK LIST DEVELOPMENT. NUCLEAR ENVIRONMENTS ON AIRCRAFT AND WEAPONS, FLIGHT TESTS.

**COR. COL. GEORGE E. STRAND**
**CH. SCI. DR. EDWARD T. CURRAN**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	129.133	133.984
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	1.260	1.400
TOTAL ANNUAL LAB	130.393	135.384
 TOTAL INHOUSE	 16.645	 17.367
TOTAL INHOUSE RDT&E	15.385	15.967
ANNUAL OPERATING COST	3.553	3.582

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	46	3	39	7
CIVILIAN	339	26	213	126
TOTAL	385	29	252	133

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
44	266.165	47.779	123.889	437.833	66.215	31.105

**...MISSION**

PLAN AND EXECUTE RESEARCH, EXPLORATORY AND ADVANCED DEVELOPMENT PROGRAMS IN AIRBREATHING PROPULSION, AEROSPACE POWER, FUELS AND LUBRICATION AND AIRCRAFT FIRE PROTECTION TECHNOLOGY. CONDUCT CONTRACT AND IN-HOUSE PROGRAMS. PROVIDE OPERATIONAL AND SYSTEMS SUPPORT.

**...CURRENT IMPORTANT PROGRAMS**

ADVANCED TURBINE ENGINE TECHNOLOGY DEMONSTRATORS.  
OPTIMIZE AVAILABILITY AND COST OF AVIATION TURBINE FUELS.  
TURBINE ENGINE COMPRESSOR RESEARCH FOR MULTI-MISSION AIRCRAFT.  
RAMJET TECHNOLOGY FOR TACTICAL AND STRATEGIC MISSILES.  
POWER TECHNOLOGY FOR MILITARY SPACECRAFT.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

TURBINE ENGINE CONTROLS TEST FAC, BATTERY DEVELOPMENT AND TEST FAC, LUBE TEST RIGS, SEAL TEST RIGS, BEARING TEST RIGS, FUEL HANDLING FAC, FIRE RESEARCH LAB, COKER LAB, FUEL ANALYSIS LAB, COMBUSTION FAC, ROTOR TEST FAC, 6 SEA LEVEL TEST STANDS-1 CAPABLE OF 60,000 LBS THRUST, 2 TURBINE ENGINE ALTITUDE CELLS, 2 PROPELLER WHIRL RIGS-1 CAPABLE OF 10,000 HP, DIRECT CONNECT RAMJET TEST FAC, RAMJET COMPONENTS LAB, ELECTRO-AERODYNAMIC LASER, HIGH TEMPERATURE TURBINE COMPONENT TEST FAC, AIRCRAFT ELECTRICAL POWER FAC WITH THREE, 350 HP DRIVES, VACUUM CHAMBER, SUPERCONDUCTIVITY LAB, HIGH POWER LAB TO 5 MW, THERMAL ENERGY STORAGE LAB, HYDRAULICS LAB, PLASMA PHYSICS LAB, LASER HOLOGRAPHY LAB, COMPRESSOR TEST FAC, SOLAR CELL LAB.

**CDR. COL. GEORGE C. MOHR**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	20.796	16.241
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	7.715	0.325
TOTAL ANNUAL LAB	28.511	16.566
TOTAL INHOUSE	13.284	9.581
TOTAL INHOUSE RDT&E	12.030	9.353
ANNUAL OPERATING COST	0.806	0.842

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL FHDS	TOTAL PROF	NON- PROF
MILITARY	136	26	63	73
CIVILIAN	154	26	97	57
TOTAL	290	52	160	130

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
30	97.387	1.252	107.467	206.106	11.062	27.677

**...MISSION**

ACCOMPLISH BEHAVIORAL AND BIOMEDICAL RESEARCH AND DEVELOPMENT TO DEFINE HUMAN TOLERANCE AND DEGRADATION OF HUMAN PERFORMANCE UNDER THE CONDITION OF ENVIRONMENTAL STRESS ASSOCIATED WITH AEROSPACE OPERATIONS AND PROVIDE SUPPORT TO SYSTEMS DEVELOPMENT IN THE ABOVE AREAS.

**...CURRENT IMPORTANT PROGRAMS**

OPERATOR COMMAND CONTROL AND COMMUNICATIONS TECHNOLOGY. CREW SYSTEMS AUTOMATION TECHNOLOGY. ADVANCED ESCAPE TECHNOLOGY. HUMAN COUNTERMEASURES TECHNOLOGY. ENVIRONMENTAL HEALTH PROTECTION TECHNOLOGY. MAN-IN-SPACE ALTERNATIVES TECHNOLOGY. CHEMICAL DEFENSE TECHNOLOGY.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

HUMAN DECELERATION SYSTEM TO SIMULATE THE COMPLEX ACCELERATION ENVIRONMENT ASSOCIATED WITH EJECTION AND CRASH LANDING. DYNAMIC ENVIRONMENT SIMULATOR A SIX DEGREE OF FREEDOM MAN-RATED CENTRIFUGE USED TO SIMULATE SUSTAINED ACCELERATIONS SUCH AS THOSE ENCOUNTERED IN AIR COMBAT MANEUVERING. THOMAS DCHES-EIGHT ALTITUDE EXPOSURE CHAMBERS TO SIMULATE EXOTIC ARTIFICIAL ATMOSPHERIC CONDITIONS. STRATEGIC AND TACTICAL COCKPIT SIMULATION FACILITIES USED TO PERFORM REAL-TIME MAN-IN-THE-LOOP EXPERIMENTS. ANECHOIC AND REVERBERATION CHAMBERS TO ENABLE EXPERIMENTAL INVESTIGATIONS OF POTENTIALLY HAZARDOUS NOISE TO DETERMINE EFFECTS ON BODY FUNCTION AND PERFORMANCE. VIVARIUM-LABORATORY RESEARCH ANIMAL FACILITY.

CDR. MAJ. GENERAL W. B. MAXSON

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	560.837	617.399
TOTAL PROCUREMENT	858.108	878.019
TOTAL O&M	11.561	10.525
TOTAL OTHER	186.304	146.216
TOTAL ANNUAL LAB	1,616.810	1,652.149
TOTAL INHOUSE	298.311	323.938
TOTAL INHOUSE RDT&E	171.340	192.089
ANNUAL OPERATING COST	35.381	37.117

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	4676	6	340	4336
CIVILIAN	2129	23	878	1251
TOTAL	6805	29	1218	5587

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
463449	324.756	1143.205	10711.071	12179.032	327.554	263.548

## ...MISSION

RESPONSIBLE FOR AIR-LAUNCH TACTL AND AIR DEF MSLS;NONNUC MUN,GUIDED WPN,  
SIC TECHNLOGY,DEVELOPMT,TST,INITIAL ACQ AND DEPLOY.TST MISSION INCLUDING  
LEAD CTR IN MUNS,EMW,INTRUSION,INTERDICTION,AND CLIMATIC SIMULATION.

## ...CURRENT IMPORTANT PROGRAMS

WIDE AREA ANTI-ARMOR MUNITIONS  
PRECISION GUIDANCE MUNITIONS  
ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE  
STANDOFF ATTACK WEAPON  
RUNWAY CRATERING SUBMUNITIONS

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

SCIENTIFIC/ENGINEERING PERSONNEL AND LAB FACILITIES CAPABLE OF EXPLOR,ADV,  
AND ENGRNG DEV OF NONNUC MUNITIONS AND EQUIP.ARMAMENT SYSTS TEST ENVI-  
RONMENT COVERING 725 SQ MI WITH LARGE ADJACENT WATER AREA;HAS 28 TEST  
AREAS W/INSTRUMENTED FACILITIES INCLUDING PRECISION TRACKING RADARS AND  
PHOTO-OPTICS;IS USED FOR MUNITIONS TESTING AND ELECTROMAGNETIC TEST EN-  
VIROMENT;AN INSTRUMENTED COMPLEX OF THREAT SYSTS FOR EVAL WEAPON SYSTEM  
EFFECTIVENESS;PROVIDES A REALISTIC ENVIRONMENT FOR TESTING A WPN SYS A-  
GAINST AN ACTIVE DEF SYS;A CLIMATIC LAB CAPABLE OF TESTING COMPLETE WPN  
SYS,A COMPUTER SCIENCE LAB,A PHYSICAL SCIENCE LAB,A PHOTO LAB,AN INSTRU-  
MENTATION/R/D FACILITY,AND A MISSILE SIMULATION AND TEST LABORATORY.

CDR. M.G. W. B. MAXSON

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	65.402	62.385
TOTAL PROCUREMENT	0.682	2.220
TOTAL O&M	1.250	1.186
TOTAL OTHER	7.362	5.694
TOTAL ANNUAL LAB	74.696	71.485
TOTAL INHOUSE	31.166	31.085
TOTAL INHOUSE RDT&E	29.862	29.370
ANNUAL OPERATING COST	0.000	0.000

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	165	4	98	67
CIVILIAN	379	14	247	132
TOTAL	544	18	345	199

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	0.000	0.000	0.000	0.000	0.000	0.000

## ...MISSION

AFATL IS SPECIFICALLY RESPONSIBLE FOR THE PLANNING, FORMULATION AND EXECUTION OF RESEARCH FOR EXPLORATORY AND ADVANCED DEVELOPMENT OF NON-NUCLEAR ARMAMENT AND RELATED EQUIPMENT, AS WELL AS TECHNICAL SUPPORT FOR ARMAMENT SYSTEMS.

## ...CURRENT IMPORTANT PROGRAMS

AFX-400 EXPLOSIVES  
IMPROVED 2000 POUND WARHEADS  
INFRA RED HIGH VALUE TARGET ACQUISITION  
WEAPONS AIR FRAME TECHNOLOGY  
HYPER VELOCITY MISSILE.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR EQUIPMENT INVENTORY CONSISTS OF A VARIETY OF ANALYZERS, SIMULATORS, MIXER EQUIPMENT, AND MEASUREMENT MACHINES, SOME WITH RF, X-RAY AND LASER CHARACTERISTICS. AFATL FACILITIES INCLUDE 18 SEPARATE LABORATORIES FOR THE CONDUCT OF A WIDE RANGE OF SCIENTIFIC INVESTIGATION AND ANALYSES; A RAPID RESPONSE MODEL FORMULATION SHOP, AND A TECHNICAL LIBRARY WHICH HAS ON LINE ACCESS.

SPACE AND PROPERTY DATA AND ANNUAL OPERATING EXPENSES ARE INCORPORATED IN ARMAMENT DIVISION.

CDR. BRIG. GEN. KENNETH R. JOHNSON

CH. SCI. DR. BRUCE REESE

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	197.819	208.088
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.013
TOTAL OTHER	3.424	9.260
TOTAL ANNUAL LAB	201.243	217.361
TOTAL INHOUSE	33.258	40.981
TOTAL INHOUSE RDT&E	29.834	37.308
ANNUAL OPERATING COST	29.377	31.047

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	173	3	86	87
CIVILIAN	220	5	64	156
TOTAL	393	8	150	243

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
39081	1129.644	182.573	1749.272	3061.489	395.569	67.477

## ...MISSION

PRIMARY MISSION IS TO PROVIDE ENVIRONMENTAL TEST SUPPORT TO SYSTEMS DEVELOPMENT AND RESEARCH DEVELOPMENT PROGRAMS OF DOD AND TO KEEP EXISTING FACILITIES MODERN TO PROVIDE ADVANCED FACILITIES AS REQUIRED, AND TO CONTINUALLY DEVELOP ADVANCED TEST TECHNIQUES AND INSTRUMENTATION.

## ...CURRENT IMPORTANT PROGRAMS

MX TESTING INCLUDES AERODYNAMIC AND ROCKET MOTOR FIRINGS  
 ANTI SATELLITE TEST SUPPORT INCLUDES SENSOR + LAUNCH VEHICLE PROPULSION  
 F100 COMPONENT IMPROVEMENT PROG AND ENGINE MODEL DERIVATIVE PROG TEST  
 B-1B F101 ENGINE AND AERODYNAMIC TEST  
 SPACE TRANSPORTATION SYSTEM AERODYNAMICS AND THERMAL PROTECTION TESTING

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

AEDC IS COMPRISED OF ABOUT 35 TEST UNITS. INCLUDED ARE WIND TUNNELS WITH TEST SECTIONS TO 16 FT SQ AND SPEED FROM SUBSONIC TO MACH 20; TURBINE ENGINE TEST CELLS WHICH PROVIDE SIMULATION TO MACH 3, ROCKET TEST CELLS, THE LARGEST RATED AT .5 MILLION LBS THRUST AT ALTITUDE; SPACE SIMULATION CHAMBERS TO 42 FT DIA AND 82 FT HIGH; HYPERBALLISTIC RANGES; DUST & SNOW EROSION FACILITY; BIRD IMPACT FACILITY; TWO CAPTIVE TRJECTORY SYSTEMS. THESE FACILITIES HAVE SUPPORTED DEVELOPMENT AND QUALIFICATION OF MOST MAJOR AERONAUTICAL, MISSILE, AND SPACE SYSTEM DEVELOPMENT SINCE 1954. THIS TESTING COMPLEMENTS EXPENSIVE AND OFTEN HAZARDOUS FLIGHT TESTING AND ASSURES THAT SYSTEM DEFICIENCIES ARE FOUND EARLY, SAVING TIME AND RESOURCES IN THE OVERALL DEVELOPMENT, ACQUISITION AND DEPLOYMENT PROCESS.

CDR. COL. BARTON KRAWETZ

CH. SCI. DR. JESSE C. RYLES

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	203.275	231.234
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	4.264	3.800
TOTAL ANNUAL LAB	207.539	235.034
TOTAL INHOUSE	25.529	26.264
TOTAL INHOUSE RDT&E	21.765	22.464
ANNUAL OPERATING COST	3.647	3.710

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	157	3	100	57
CIVILIAN	604	39	405	199
TOTAL	761	42	505	256

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
229	229.373	9.494	405.264	644.131	39.654	86.947

## ...MISSION

MAINTAINS AN AVIONICS TECHNOLOGY BASE THROUGH RESEARCH, EXPLORATORY AND ADVANCED DEVELOPMENT AND ASSIGNED BASIC RESEARCH PROGRAMS. DEVELOPS AND DEMONSTRATES COST-EFFECTIVE AVIONICS CONCEPTS TO REDUCE ACQUISITION AND OPERATING COSTS AND IMPROVE OPERATIONAL CAPABILITIES.

## ...CURRENT IMPORTANT PROGRAMS

VERY HIGH SPEED INTEGRATED CIRCUITS TECHNOLOGY  
SYNTHETIC APERTURE/BISTATIC RADAR  
GALLIUM ARSENIDE POWER SOURCES FOR MICROWAVE APPLICATIONS  
MONOPULSE RADAR COUNTERMEASURES  
AUTOMATIC TARGET CLASSIFICATION

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

TECHNICAL AREAS INCLUDE FIRE CONTROL, WEAPON DELIVERY, COMMUNICATIONS, COMMUNICATIONS, ELECTRONIC WARFARE, NAVIGATION, SURVEILLANCE, RECONNAISSANCE, INFO PROCESSING AND CONTROL, SUBSYSTEMS, INTEGRATION AND SYSTEMS ARCHITECTURE, SUPPORTING ELECTRONIC DEVICES. INHOUSE LABS LABS INCLUDE SIMULATION AND ANAL OF INTEGRATED DIGITAL SYSTEMS, DESIGN AND FABRICATION OF SPECIALIZED INTEGRATED/HYBRID CIRCUITS AND PRINTED WIRING BOARDS, PERFORMANCE EVALUATION OF E-O SYSTEMS AND CORRELATION WITH WEATHER OBSERVATION, SIMULATION OF REAL-WORLD SIGNAL/JAMMING ENVIRONMENT FOR EVALUATION OF ELECTRONIC WARFARE SYSTEMS, EVALUATION OF RECON SENSORS IN REALISTIC FLIGHT ENVIRONMENT. OTHER LABS ARE MAINTAINED FOR EVALUATION OF AIRBORNE AND SPACE SENSORS AND COMPONENTS FROM OPTICAL TO RADIO FREQUENCIES.



CDR. COL. MARVIN L. JONES

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	0.000	0.000
TOTAL PROCUREMENT	7.108	7.844
TOTAL O&M	279.842	291.049
TOTAL OTHER	26.900	34.677
TOTAL ANNUAL LAB	313.850	333.570
TOTAL INHOUSE	67.221	69.669
TOTAL INHOUSE RDT&E	0.000	0.000
ANNUAL OPERATING COST	27.260	29.510

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	1009	3	251	758
CIVILIAN	1234	0	95	1139
TOTAL	2243	3	346	1897

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
17484	129.369	1213.525	4510.214	5853.108	390.367	326.086

...MISSION

SUPPORT OF AIR, GROUND, AND SEA LAUNCHED SPACE AND MISSILE SYSTEMS FROM CCAFS AND KSC. OPERATION OF INSTRUMENTED SHIP IN SUPPORT OF REQUIREMENTS SUPPORT OF USAF SPACETRACK. SUPPORT OF SPECIAL PROJECTS, DOCUMENTED R&D TESTS AND VARIOUS TENANT ACTIVITIES.

...CURRENT IMPORTANT PROGRAMS

NAVY PROGRAMS - POSEIDON, TRIDENT, CHEVALINE  
MILITARY SPACE SUPPORT PROGRAMS / 340/IUS  
MILITARY MISSION SUPPORT PROGRAMS - SRAM AND PERSHING  
NASA PROGRAMS / DELTA, ATLAS/CENTAUR, AND SPACE SHUTTLE  
DOD SPACE TRANSPORTATION SYSTEM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ESMC CAPABILITIES INCLUDE: ASSEMBLY, PRELAUNCH CHECKOUT AND LAUNCH PERFORMANCE EVALUATION OF BALLISTIC MISSILES, SPACE LAUNCH VEHICLES AND PAYLOADS. SERVICES INCLUDE: TRACKING, LONG DISTANCE COMMUNICATIONS, AND DATA REDUCTION AND ANALYSIS. EQUIPMENT AND FACILITIES INCLUDE: CCAFS LAUNCH SUPPORT, MAINLAND AND DOWNRANGE INSTRUMENTATION AND COMMUNICATIONS INSTRUMENTED SHIP, DATA PROCESSING, PHOTO/ELECTRONIC-OPTICAL SERVICES, AND RANGE TIMING SYSTEMS. ESMC OPERATES AND MAINTAINS CCAFS, MAINLAND SITES AND DOWNRANGE STATIONS. SUPPORT FUNCTIONS INCLUDE: CONTRACTOR OPERATION, PLANT ENGINEERING, LABS, SHOPS AND OTHER SPECIAL SERVICES.

CDR. DIR. COL. FRANCIS B. CROWLEY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	14.696	15.710
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.682	0.245
TOTAL OTHER	2.052	2.257
TOTAL ANNUAL LAB	17.430	18.212
TOTAL INHOUSE	4.589	3.791
TOTAL INHOUSE RDT&E	1.965	1.289
ANNUAL OPERATING COST	0.123	0.105

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	85	6	41	44
CIVILIAN	19	2	11	8
TOTAL	104	8	52	52

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
3	12.000	14.000	0.000	26.000	1.960	2.656

...MISSION

AIR FORCE LEAD AGENCY FOR RESEARCH, DEVELOPMENT, TEST, AND EVALUATION IN THE AREAS OF CIVIL ENGINEERING AND ENVIRONMENTAL QUALITY. AF FOCAL POINT FOR ENVIRONMENTAL QUALITY AND LEAD LABORATORY FOR FACILITIES ENERGY.

...CURRENT IMPORTANT PROGRAMS

RAPID RUNWAY REPAIR AND NEW AIRCRAFT OPERATIONAL SURFACES  
ENVIRONMENTAL QUALITY AND ASSESSMENT RESEARCH AND DEVELOPMENT  
SURVIVABILITY/VULNERABILITY OF FACILITIES  
FACILITIES ENERGY AND ALTERNATE ENERGY SOURCES  
FIRE PROTECTION.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ESL HAS ACCESS TO LABORATORIES AND TEST FACILITIES TO PERFORM QUALITATIVE AND QUANTITATIVE MEASUREMENTS ON ENGINEERING MATERIALS, PAVEMENTS, SOIL MECHANICS, AIR QUALITY, WASTE TREATMENT PROCESSES, FIRE EXTINGUISHING AGENTS, AND HARDENED AIRCRAFT SHELTERS. EQUIPMENT INCLUDES FLAME AND ABSORPTION SPECTROPHOTOMETERS, WATER/WASTE STANDARD METHODS TEST EQUIPMENT, ELECTRICAL AEROSOL ANALYZING EQUIPMENT, LASER PARTICLE SIZE MEASUREMENT EQUIPMENT, AND MICROPROCESSOR DEVELOPMENT SYSTEMS. REMOTE TERMINAL ACCESS IS AVAILABLE TO CYBER 171 AND 176 SCIENTIFIC COMPUTERS WITH OFF LINE PLOTTING CAPABILITY. A RUNWAY REPAIR/ ALTERNATE LAUNCH SURFACE TEST SITE HAS A 200 X600 FOOT TYPICAL RUNWAY SECTION.

CDR. COL. ROBERT C. BARLOW

CH. SCI. DR. G. KEITH RICHEY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	132.539	137.131
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	4.494	4.500
TOTAL ANNUAL LAB	137.033	141.631
TOTAL INHOUSE	32.646	33.069
TOTAL INHOUSE RDT&E	28.152	28.569
ANNUAL OPERATING COST	4.222	4.300

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	186	1	132	54
CIVILIAN	649	33	433	216
TOTAL	835	34	565	270

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
92	530.356	5.100	147.128	682.584	27.558	58.750

...MISSION

PLAN AND EXECUTE RESEARCH, EXPLORATORY AND ADV DEV PROGRAMS FOR AERO-SPACE FLT VEHICLE STRUCTURES, AERODYNAMICS, FLT CONTROL, DYNAMICS AND EQUIPMENT. LEAD AFSC LAB FOR EXPERIMENTAL FLT VEHICLES. FOCAL POINT FOR NON-NUCLEAR SURVIVABILITY PROGRAMS.

...CURRENT IMPORTANT PROGRAMS

ADVANCED FIGHTER TECHNOLOGY INTEGRATOR  
 ADVANCED COMPOSITE AND METALLIC STRUCTURES  
 AIRCRAFT ROUGH/SOFT FIELD LANDING GEAR  
 DIGITAL FLIGHT CONTROL SYSTEM  
 SHORT TAKE-OFF AND LANDING TECHNOLOGY

...FUNCTIONS/EQUIPMENT/CAPABILITIES

A BUILT-UP LOW COST ADVANCED TITANIUM STRUCTURE, SUCCESSFULLY COMPLETED TWO LIFETIMES OF FATIGUE CYCLING IN THE STRUCTURES TEST FACILITY. THE LANDING GEAR DEVELOPMENT FACILITY CONDUCTED TESTS WITH A-10 NOSE GEAR TIRE/WHEEL ASSEMBLIES TO DEVELOP STRESS DATA FOR REDESIGN OF THE A-10 NOSE WHEEL, INVESTIGATION OF THE AFTI/F-16 FLYING QUALITIES WAS PERFORMED IN THE ENGINEERING FLT SIMULATION FACILITY. PERFORMANCE/RELIABILITY OF AERONAUTICAL EQUIPMENT UNDER REALISTIC ENVIRONMENTAL CONDITIONS WERE ASSESSED IN THE COMBINED ENVIRONMENTS RELIABILITY TESTING FACILITY. BALISTIC RANGE ASSESSED FUEL TANK INERTING WITH HALON AS A MEANS FOR SUPPRESSING FIRE AND EXPLOSION. TESTS IN THE TRISONIC GASDYNAMICS FACILITY DEFINED INFLUENCE OF PROPULSION SYSTEM OPERATION ON WING AERODYNAMIC PERFORMANCE.

**CDR. MG P. W. ODGERS**
**TECH. DIR. MR. A. D. PHILLIPS**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	135.632	162.051
TOTAL PROCUREMENT	2.570	0.796
TOTAL O&M	19.120	20.651
TOTAL OTHER	80.912	76.782
TOTAL ANNUAL LAB	238.234	260.280
 TOTAL INHOUSE	 177.128	 197.428
TOTAL INHOUSE RDT&E	98.299	114.719
ANNUAL OPERATING COST	23.573	25.860

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	2885	3	142	2743
CIVILIAN	1688	6	323	1365
TOTAL	4573	9	465	4108

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
218767	102.125	263.504	7664.465	8030.094	287.980	152.497

**...MISSION**

TESTS MANNED/UNMANNED AEROSPACE VEH, INCL ALL-WEATHER. FLT EVAL AEROSPACE RSCH VEH AND DEV TEST AERODYNAMIC DECELERATORS. USAF TEST PILOT SCHOOL. SUPPORTS USAF, DOD, GOV, FOREIGN AND CONTRACTOR TEST/EVAL. UTAH TEST AND TRAINING RANGE AND EDWARDS FLIGHT TEST RANGE

**...CURRENT IMPORTANT PROGRAMS**

ASAT (ANTI-SATELLITE SYSTEM)  
F-16XL FLIGHT TEST DEMO  
F-15 DERIVATIVE FIGHTER  
AFTI F-16  
B-1B DT AND E

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

FACILITIES AND EQUIP ARE AVAILABLE FOR COMPLETE RANGE OF SERVICES TO CONDUCT DT AND E FLT TESTS OF AERONAUTICAL SYS OVER LONG DISTANCES, TO CONDUCT FLT EVAL AND RECOVER RSCH VEH, AND TO TRAIN TEST PILOTS. FLIGHT TEST MISSION CONTROL COMPLEX, ENGRG FACILITIES, REAL-TIME INSTRUMENTED RANGES, DATA COLLECTION, REDUCTION AND ANALYSIS FAC, PHOTO/TV, ACFT/ENGINE MAINT, TEST EQUIP, ELECTRONIC SHOPS, AND DRY LAKES FOR RECOVERY AND EMERGENCY LANDINGS PROVIDE SUPPORT FOR ALL PROGRAMS. OTHER FACILITIES ARE PRECISION IMPACT, GUNNERY/BOMBING, INFRARED/PHOTO RESOLUTION, RADAR FIDELITY, TACTICAL AND OPTICAL RANGES, ENGR SIMULATOR, MUNITIONS STORAGE AND CHECKOUT, AND CONTRACTOR-ASSIGNED HANGARS, SHOPS, OFFICE SPACE, ETC. INTEGRATED REAL-TIME MISSION CONTROL CENTER.

CDR. COL. W. D. SIURU

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	1.119	0.903
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	0.714	0.743
TOTAL ANNUAL LAB	1.833	1.646
TOTAL INHOUSE	1.833	1.646
TOTAL INHOUSE RDT&E	1.119	0.903
ANNUAL OPERATING COST	0.102	0.129

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	23	12	19	4
CIVILIAN	9	1	5	4
TOTAL	32	13	24	8

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	19.000	3.000	0.000	22.000	1.820	2.659

...MISSION

CONDUCT RESEARCH IN AEROSPACE MECHANICS AND CHEMISTRY.  
ENCOURAGE & SUPPORT ACADEMY FACULTY & CADET RESEARCH BY DIRECT PARTICIPATION. MONITOR FACULTY CONSULTANT PROG, SUMMER RSCH PROG. FOCAL POINT FOR USAF ACADEMY RESEARCH PROPOSED TO DL RESEARCH & TECHNOLOGY LABS (AFSC).

.. CURRENT IMPORTANT PROGRAMS

BATTERY RESEARCH & ELECTROCHEMISTRY OF MOLTEN SALTS, ENERGETIC MATERIALS RESEARCH, CHEMICAL MOLECULAR DYNAMICS  
OPTICAL ROTATION SENSORS, OPTICS RESEARCH, PERIODIC CONTROL, NUCLEAR GYROS, IMAGE PROCESSING.  
UNSTEADY AERODYNAMICS, INTEGRATED AIRBREATHING PROPULSION

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MOLTEN SALT MELT STRUCTURE, CONDUCTIVITY & ELECTRODE REACTIONS. EXPLOSIVE & PROPELLANT SYNTH, DECOMPOSITION MECHANISMS & DETONATION PHENOMENA. GENERATION, MSMT, SPECTROSCOPY & MO CALC. OF EXCITED STATE SPECIES. IR, UV, NMR, EPR, X-RAY & MASS SPECTS, GAS & LIQ CHROMATOGRAPHS, ELECTRON MICROSCOPE, SPECIAL SPECTROMETERS & CONDUCTIVITY EQUIP., ASSOC FACILITIES FOR WET CHEMISTRY. ADVANCED ANALYSIS & EVALUATION TECHNIQUES FOR INERTIAL GUIDANCE SENSORS USING 2-AXIS TEST TABLE (GYRO), AUTOMATIC AZIMUTH ALIGNMENT EQUIPMENT & ELECTRONIC CONTROL EQUIP FOR 50 SERIES INERTIAL DEVICES LOCATED IN A CLASS 1000 CLEAN LAB ON 80 TON AIR SUPPORTED STABLE PLATFORM. VAX 11/780 MINI COMPUTER & SOFTWARE TO AUTOMATE GYRO RESEARCH.  
AERODYNAMIC RESEARCH IN USAFA SUBSONIC & TRISONIC WIND TUNNELS, HOLOGRAPHIC & OTHER OPTICAL FLOW VISUALIZATION INSTRUMENTATION.

**CDR. COL. JOHN FRIEL**
**CH. SCI. DR. ALVA T. STAIR JR**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	71.366	78.946
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	3.589	2.876
TOTAL ANNUAL LAB	74.955	81.822
TOTAL INHOUSE	30.175	32.121
TOTAL INHOUSE RDT&E	27.331	29.430
ANNUAL OPERATING COST	7.818	8.131

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	120	5	39	81
CIVILIAN	490	96	276	214
TOTAL	610	101	315	295

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
335	388.689	14.566	25.883	429.138	9.863	29.870

**...MISSION**

CONDUCTS AND SUPPORTS AF RELEVANT RESEARCH AND EXPLORATORY DEVELOPMENT IN ENVIRONMENTAL AND PHYSICAL SCIENCES WITH MAJOR EMPHASIS ON GEOPHYSICS. ALSO CONDUCTS AND SUPPORTS SPECIFICALLY ASSIGNED ADVANCED DEVELOPMENT EFFORTS.

**...CURRENT IMPORTANT PROGRAMS**

SPACE ENVIRONMENT  
WEATHER FORECAST AND OBSERVING AUTOMATION  
IONOSPHERIC SPECIFICATION FOR C3I SYSTEMS  
OPTICAL, INFRARED AND UV BACKGROUNDS FOR SURVEILLANCE SYSTEMS  
GEODETIC AND EARTH MOTION EFFECTS ON MISSILE CEP.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

CONDUCTS RESEARCH AND TECHNICAL DEVELOPMENT IN TERRESTRIAL SCIENCES, METEOROLOGY, AERONOMY, AND OPTICAL, SPACE AND SOLAR PHYSICS RELATING TO AIR FORCE NEEDS. EQUIPMENT AND FACILITIES INCLUDE IN-HOUSE LABORATORIES; SPACE SIMULATION CHAMBERS; ROCKET AND BALLOON LAUNCH FACILITIES; TWO KC-135 AIRCRAFT FOR OPTICAL, UPPER ATMOSPHERIC AND IONOSPHERIC STUDIES; AND TWO CDC 6600 COMPUTER SYSTEMS.

**CDR. COL. RONALD W. TERRY**
**VICE. CDR. COL. KENNETH E. STOUT**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	31.350	41.579
TOTAL PROCUREMENT	0.258	0.000
TOTAL O&M	1.591	1.211
TOTAL OTHER	3.277	3.378
TOTAL ANNUAL LAB	36.476	46.168
 TOTAL INHOUSE	 13.965	 14.446
TOTAL INHOUSE RDT&E	10.885	11.308
ANNUAL OPERATING COST	2.393	2.687

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	129	10	71	58
CIVILIAN	236	42	146	90
TOTAL	365	52	217	148

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
5	88.180	58.123	81.180	227.483	6.521	74.949

**...MISSION**

PLAN AND EXECUTE RESEARCH, EXPLORATORY DEVELOPMENT, AND ADVANCED DEVELOPMENT PROGRAMS IN TRAINING AND PERSONNEL SYSTEMS TECHNOLOGY.

**...CURRENT IMPORTANT PROGRAMS**

MANPOWER AND PERSONNEL PROGRAMS IN SELECTION, CLASSIFICATION AND RETENTION; EDUCATION AND TRAINING PROGRAMS IN TECHNICAL TRAINING, FLYING TRAINING AND CREW AND TEAM TRAINING; SIMULATION AND TRAINING DEVICES PROGRAMS DEVELOPING FLIGHT AND MAINTENANCE TRAINING SIMULATORS; LOGISTICS PROGRAMS IN COMBAT MAINTENANCE.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

ADVANCED SIMULATOR FOR PILOT TRAINING CONSISTING OF TWO COCKPITS ON A SIX DEGREES OF FREEDOM MOTION BASE WITH WIDE-ANGLE INFINITY VISUAL DISPLAYS AND A COMPUTER IMAGE GENERATION SYSTEM. ADVANCED INSTRUCTIONAL SYSTEM COMPUTER BASED TRAINING SYSTEM OFFERING INDIVIDUALIZED, ADAPTIVE TRAINING TO MAXIMIZE INDIVIDUAL LEARNING PERFORMANCE. UNIVAC 1100/81 COMPUTER SYSTEM USED FOR R&D IN ALL FACETS OF PERSONNEL SELECTION, TRAINING, MANAGEMENT AND RETENTION. BASIC RESEARCH TRAINING AND TESTING LABORATORY IS USED FOR EXPLORING NEW TECHNIQUES IN THE MEASUREMENT OF INDIVIDUAL DIFFERENCES IN LEARNING AND PERFORMANCE CAPABILITIES.

DIR. MR. GEORGE P. PETERSON

CH. SCI DR. HARRIS M. BURTE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	70.385	72.988
TOTAL PROCUREMENT	64.300	60.764
TOTAL O&M	3.100	4.100
TOTAL OTHER	1.522	22.200
TOTAL ANNUAL LAB	139.307	160.052
TOTAL INHOUSE	17.057	17.544
TOTAL INHOUSE RDT&E	15.535	15.944
ANNUAL OPERATING COST	1.460	1.487

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	51	2	45	6
CIVILIAN	312	62	242	70
TOTAL	363	64	287	76

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
15	188.750	119.141	54.123	362.014	23.340	20.570

...MISSION

PLAN/EXECUTE EXPLORATORY AND ADVANCED DEVELOPMENT, AND ASSIGNED BASIC RESEARCH PROGRAMS FOR MATERIALS. PROVIDE TECHNICAL AND MANAGEMENT ASSISTANCE FOR STUDIES, ANALYSIS, DEVELOPMENT PLANNING, TEST, EVALUATION, MODIFICATION AND OPERATION OF AEROSPACE SYSTEMS. MANAGE AF DIRECT-

...CURRENT IMPORTANT PROGRAMS

ADVANCED DEVELOPMENT OF LASER HARDENED MATERIALS  
STRUCTURAL MATERIALS FOR AEROSPACE SYSTEMS  
THERMAL PROTECTION MATERIALS FOR REENTRY VEHICLES  
PROPULSION MATERIALS  
ELECTRONIC MATERIALS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MANUFACTURING PROGRAMS, MATERIALS RESEARCH AND DEVELOPMENT FACILITIES AND CAPABILITIES FOR AEROSPACE STRUCTURES, THERMAL PROTECTION SYSTEMS FOR BALLISTIC REENTRY VEHICLES AND ENGINES, FLUIDS, LUBRICANTS, FLUID CONTAINMENT, PROPULSION COATINGS, FIBERS, ELECTROMAGNETIC WINDOWS, SENSORS, LASER WINDOWS AND OPTICAL DEVICES, ELECTRICAL COMPONENTS, NON-DESTRUCTIVE TESTING, POLYMERS, ADHESIVES, NON-METALLIC MATRIX COMPONENTS, ELASTOMERS, METALS, ALLOYS, METAL COMPOSITES, METAL PROCESSING, CERAMICS, STATIC AND DYNAMIC BEHAVIOR, GRAPHITE, ELECTRONIC/PHYSICAL/CHEMICAL ANALYSIS, OTHER MAJOR MATERIALS FUNCTIONS WHICH INCLUDE MANUFACTURING TECHNOLOGY, SYSTEMS APPLICATIONS, SYSTEMS SUPPORT AND THERMAL PROTECTION MATERIALS.



CDR. COL. JAMES E. BAKER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	96.354	102.722
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.025	0.056
TOTAL OTHER	1.370	1.384
TOTAL ANNUAL LAB	97.749	104.162
TOTAL INHOUSE	1.395	1.440
TOTAL INHOUSE RDT&E	0.000	0.000
ANNUAL OPERATING COST	3.986	4.500

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	45	16	30	15
CIVILIAN	98	24	38	60
TOTAL	143	40	68	75

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
0	0.000	36.688	5.128	41.816	0.000	0.000

...MISSION

MANAGES THE AF RESEARCH PROGRAM, PREVENTS TECHNOLOGICAL SURPRISE, ASSISTS IN SOLVING TECHNOLOGICAL PROBLEMS, PROVIDES RESEARCH OPTIONS, ENHANCES THE CONTINUED SUPERIORITY OF THE AF OPERATIONAL CAPABILITY, ASSISTS IN THE TRANSITION OF PRODUCTS OF THAT RESEARCH TO DEVELOPMENT ACTIVITIES.

...CURRENT IMPORTANT PROGRAMS

SPACE POWER AND PROPULSION  
SPACECRAFT STRUCTURES AND MATERIALS  
SPACECRAFT IMAGE UNDERSTANDING  
SPACECRAFT SURVIVABILITY.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MANAGE THE AIR FORCE RESEARCH PROGRAM AND SPONSOR EXTRAMURAL RESEARCH.

CDR. COL. ALLAN MACLAREN

DIR. MR. DON HART

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	44.585	43.860
TOTAL PROCUREMENT	0.255	0.256
TOTAL O&M	0.000	0.000
TOTAL OTHER	3.509	3.615
TOTAL ANNUAL LAB	48.349	47.731
TOTAL INHOUSE	17.237	17.500
TOTAL INHOUSE RDT&E	13.634	13.830
ANNUAL OPERATING COST	0.950	0.982

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	174	2	63	111
CIVILIAN	252	16	113	139
TOTAL	426	18	176	250

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)			COST (MILLION \$)		
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
68345	419.046	86.848	4.780	510.674	126.000	26.998

## ...MISSION

CONDUCT THE AIR FORCE'S ROCKET PROPULSION AND INTERDISCIPLINARY SPACE TECHNOLOGY RESEARCH, EXPLORATORY, AND ADV DEVEL PROGRAMS FOR FUTURE ICBMS, AIR LAUNCHED MISSILES, SPACE VEHICLES, AND SATELLITES. PROVIDES ROCKET PROPULSION TECHNOLOGICAL SUPPORT TO DOD AND NON-DOD AGENCIES.

## ...CURRENT IMPORTANT PROGRAMS

PROVIDE PROPULSION OPTIONS FOR SMALL MOBILE BALLISTIC MISSILES. PROVIDE HIGH PERFORMANCE & PROPULSION FLEXIBILITY OPTIONS FOR TACTICAL MISSILES. PROVIDE LOW AIR LAUNCHED MISSILE PROPULSION SIGNATURE. PROVIDE PROPULSION OPTIONS FOR SPACE SYSTEMS DEPLOYMENT. DEMONSTRATE HIGHER PERFORMANCE SATELLITE THRUSTERS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

LABORATORIES FOR SYNTHESIS, ANALYSIS AND FORMULATION OF NEW PROPELLANTS. FACILITIES FOR MIXING, CASTING, CURING AND TESTING SOLID ROCKET MOTORS. SOLID MOTOR EXPERIMENTAL COMPLEX FOR INVESTIGATION OF COMBUSTION, AGING, STRUCTURAL INTEGRITY, BALLISTIC PERFORMANCE AND HIGH TEMP COMPONENTS. LAB FOR EXPERIMENTATION OF SMALL ATTITUDE CONTROL AND SATELLITE PROPULSION SYSTEMS AND COMPONENTS UNDER SIMULATED SPACE ENVIRONMENTS. ALTITUDE EXPERIMENTATION OF LIQUID AND SOLID ROCKETS UP TO 50,000 POUNDS THRUST. AMBIENT EXPERIMENTATION OF LIQUID OR SOLID ROCKETS UP TO 10,000,000 POUNDS THRUST. IN-HOUSE ANALYTICAL CAPABILITY FOR DESIGN, ANALYSIS, AND DATA REDUCTION. SHOPS FOR FABRICATING EXPERIMENTAL HARDWARE AND SYSTEMS.

**CDR. COL. PHILIPPE BOUCHARD**
**CH. SCI. DR. FRED I. DIAMOND**
**PROGRAM DATA BY FISCAL YEAR (MILLION \$)**

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	214.735	247.210
TOTAL PROCUREMENT	8.155	15.944
TOTAL O&M	44.078	39.486
TOTAL OTHER	4.471	5.695
TOTAL ANNUAL LAB	271.439	308.335
TOTAL INHOUSE	31.513	33.089
TOTAL INHOUSE RDT&E	26.805	28.145
ANNUAL OPERATING COST	14.248	14.960

**PERSONNEL DATA (END OF FY 1982)**

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	224	7	104	120
CIVILIAN	1102	55	613	489
TOTAL	1326	62	717	609

**SPACE AND PROPERTY**

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
1517	764.945	54.080	182.271	1001.296	28.449	53.434

**...MISSION**

CONDUCTS RESEARCH, EXPLORATORY AND ADVANCED DEVELOPMENT, TEST AND SELECTED ENGINEERING DEVELOPMENT AND ACQUISITION SUPPORT PROGRAMS IN SUPPORT OF COMMAND, CONTROL AND COMMUNICATIONS AND INTELLIGENCE ACTIVITIES.

**...CURRENT IMPORTANT PROGRAMS**

ADVANCED TACTICAL RADAR  
SPACE BASED RADAR  
COMMAND, CONTROL AND COMMUNICATIONS DECISION AIDS  
SATELLITE COMMUNICATIONS  
FIBER OPTICS.

**...FUNCTIONS/EQUIPMENT/CAPABILITIES**

MAJOR AREAS OF TECHNOLOGY ARE ANTENNAS, SIGNAL PROCESSING, SOLID STATE COMPONENTS, THERMIONICS, OPTO-ELECTRONICS, RADIATION HARDENING, SYSTEM AND COMPONENT RELIABILITY, SOFTWARE, ARTIFICIAL INTELLIGENCE-WITH EMPHASIS ON DECISION AIDS, AND RECONNAISSANCE AND INTELLIGENCE DATA HANDLING. MAJOR IN-HOUSE FACILITIES ARE: RECONNAISSANCE EXPLOITATION FACILITY, HIGH POWER FACILITY, DIGITAL COMMUNICATIONS EXPERIMENTAL FACILITY, R AND D COMPUTER FACILITY FEATURING TWO HONEYWELL 6180 COMPUTERS WITH MULTICS, RELIABILITY ANALYSIS CENTER, RADIATION EFFECTS FACILITY, EXPERIMENTAL PHOTOGAMMETRIC FACILITY, ECCM AND SIGNAL PROCESSING LABORATORY, SOLID STATE DEVICE FAILURE ANALYSIS FACILITY, EXPERIMENTAL DEVICE FABRICATION FACILITY, ELECTROMAGNETIC VULNERABILITY FACILITY FOR WEAPONS TESTING, SURVEILLANCE LABORATORY, AND MATERIALS SYNTHESIS AND DEVELOPMENT FACILITY.

CDR. COL. ROY L. DEHART

VICE CDR. COL. JAMES A. BOYDSTUN

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	21.182	21.479
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	8.388	8.724
TOTAL ANNUAL LAB	29.570	30.203
TOTAL INHOUSE	21.887	21.102
TOTAL INHOUSE RDT&E	13.499	12.378
ANNUAL OPERATING COST	3.179	3.063

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	364	51	92	272
CIVILIAN	264	37	105	159
TOTAL	628	88	197	431

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
74	432.994	51.447	196.102	680.543	18.095	22.630

## ...MISSION

CONDUCT EXPLORATORY RESEARCH AND DEVELOPMENT PROGRAMS IN AEROSPACE BIOTECHNOLOGY, INCLUDES LIFE SUPPORT, AEROSPACE MEDICINE, BIOMEDICAL PROGRAMS AND RADIOBIOLOGY. PROVIDE MEDICAL EVALUATION AND CONSULTATION FOR AIRCREWS TO ASSURE RETENTION OF FLYING STATUS.

## ...CURRENT IMPORTANT PROGRAMS

CHEMICAL WARFARE DEFENSE.  
RADIATION AND DIRECTED ENERGY BIOEFFECTS.  
CREW READINESS AND PROTECTIVE EQUIPMENT.  
AEROMEDICAL ASPECTS OF AEROSPACE OPERATIONS.  
SPACE BIOTECHNOLOGY.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

RESEARCH IN AEROSPACE MEDICAL PROBLEMS, LIFE SUPPORT, ENVIRONMENTAL STRESS, RADIOBIOLOGY, LASER, BIOMETRICS, BIOMED ENGINEERING, RTE ON MEDICAL EQUIPMENT AND SYSTEMS. WHOLE BODY COUNTER, HUMAN CENTRIFUGE, TESTING CELLS, RESEARCH CHAMBERS, TELETHERAPY COBALT 60 RADIATION SOURCE, RADIOFREQUENCY RADIATION FACILITY, ELECTRON MICROSCOPE SYSTEM, REMOTE INTERACTIVE GRAPHIC TERMINAL SYSTEM, THERMAL CHAMBER, CARDIAC CATH LAB, AEROSP MED SCIENCE LAB, LASER HAZARD FACILITIES, AEROMEDICAL LIBRARY, AEROSP MED EVALUATION AND CONSULTATIVE SERVICES, OPTICAL RESEARCH AUDIOLOGY, VESTIBULAR STUDIES, PSYCHOBIOLOGY, RADIOISOTOPE, AEROMED STANDARDS, MODELING, BIOMED RESEARCH, MEDICAL REPOSITORIES, RADIATION SCIENCES RESEARCH, BIODYNAMICS RESEARCH, DEVELOP ENGINEERING.

CDR. COL. T. M. JOHNSON

VCDR. COL. H. D. SPURLIN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	197.485	205.735
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	1.108	0.000
TOTAL OTHER	17.255	18.116
TOTAL ANNUAL LAB	215.848	223.851
TOTAL INHOUSE	75.288	79.760
TOTAL INHOUSE RDT&E	56.925	61.644
ANNUAL OPERATING COST	13.256	15.099

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	648	40	396	252
CIVILIAN	525	55	275	250
TOTAL	1173	95	671	502

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
702	555.629	161.356	132.261	849.246	76.613	67.690

...MISSION

RESPONSIBLE FOR EXPLORATORY, ADVANCED, AND ENGINEERING DEVELOPMENT IN NUCLEAR WEAPONS EFFECTS, COMPONENTS, NUCLEAR SURVIVABILITY/VULNERABILITY, HIGH ENERGY LASER SYSTEMS, ADVANCED WEAPON CONCEPTS AND TECHNOLOGY, AND NUCLEAR SAFETY.

...CURRENT IMPORTANT PROGRAMS

ADVANCED RADIATION TECHNOLOGY  
ADVANCED WEAPON TECHNOLOGY  
NUCLEAR SURVIVABILITY/VULNERABILITY ANALYSIS AND TESTING  
NUCLEAR SAFETY ANALYSIS AND DESIGN CRITERIA  
NUCLEAR WEAPONS EFFECTS ANALYSIS AND TESTING.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

NUCLEAR WEAPONS EFFECTS SIMULATION, SAFETY, COMPONENT ASSESSMENT AND ANALYSIS OF WEAPONS SYSTEMS NUCLEAR HARDNESS ARE CONDUCTED IN ENGINEERING TEST LABORATORIES AND PHYSICS LABORATORIES. SIMULATION TESTS ON MISSILES, AIRCRAFT, AND COMPONENTS USE ELECTROMAGNETIC PULSE SIMULATORS, GAS GUNS, AND X-RAY DEVICES. CIVIL ENGINEERING PROGRAMS USE SHOCK TUBES AND HIGH EXPLOSIVES FOR SIMULATION OF NUCLEAR BLAST AND SHOCK. LASER SYSTEMS DEVELOPMENT USES LASER/OPTICS LABORATORIES AND TEST RANGES WITH LARGE, HIGH POWER DEVICES. A TECHNICAL LIBRARY, METALLURGY AND METROLOGY LABORATORIES, 1 CRAY AND 1 CDC-6600 COMPUTERS WITH REMOTE ACCESS TERMINALS AND MULTI-CHANNEL SENSING/RECORDING AND DATA REDUCTION SUPPORT ALL REQUIRING RDT/E PROGRAMS.

CDR. COL. WILLIAM J. MURPHY

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	2.600	2.000
TOTAL PROCUREMENT	5.866	10.042
TOTAL O&M	103.768	119.996
TOTAL OTHER	9.760	10.150
TOTAL ANNUAL LAB	121.994	142.188
TOTAL INHOUSE	120.994	139.888
TOTAL INHOUSE RDT&E	1.800	0.000
ANNUAL OPERATING COST	0.000	0.000

## PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	399	2	401	2
CIVILIAN	451	2	451	0
TOTAL	850	4	852	2

## SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
55860	914.964	568.103	607.327	2090.394	180.000	300.000

## ...MISSION

OPERATE THE WESTERN TEST RANGE TO SUPPORT FIELD TEST AND LAUNCH OPERATIONS FOR A VARIETY OF GOVERNMENT RANGE USERS.

## ...CURRENT IMPORTANT PROGRAMS

SPACE TRANSPORTATION SYSTEM AND MISSILE X  
 MINUTEMAN II OPERATIONAL TESTING PROGRAM  
 MINUTEMAN III OPERATIONAL TESTING PROGRAM  
 SPACE LAUNCH PROGRAMS USING TITAN, ATLAS, DELTA, AND SCOUT BOOSTERS  
 RANGE SUPPORT TO GUIDED MISSILE AND AERONAUTICAL TEST PROGRAMS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

WSMC CAPABILITIES INCLUDE TEST LAUNCH AND RANGE SUPPORT. TEST LAUNCH INCLUDES: ASSEMBLY AND PRELAUNCH TESTING OF LAUNCH VEHICLE SYSTEMS USING ATLAS, TITAN AND MM BOOSTERS; PAYLOAD AND VEHICLE INTERGRATION/CHECKOUT; AND LAUNCH CONTROL/SAFETY. WESTERN TEST RANGE SUPPORT INCLUDES NEAR AND FAR TERM RANGE INSTRUMENTATION PLANNING, AND DATA GATHERING ON BALLISTIC/SPACE/GUIDED MISSILES; AIRCRAFT AND OTHER TESTS AT UPRANGE AND DOWNRANGE LOCATIONS. RADAR, TELEMETRY, OPTICAL, DATA PROCESSING, COMMUNICATIONS, AND COMMAND CONTROL SYSTEMS ARE AVAILABLE. LAUNCH AZIMUTHS VARY FROM 140 TO 313 DEGREES. AERONAUTICAL TESTS ARE CONDUCTED IN AN INSTRUMENTED OFFSHORE OPERATING AREA. LAUNCH FACILITIES AND RANGE INSTRUMENTATION CAN BE RECONFIGURED TO MEET PROGRAM REQUIREMENTS.

CDR. COL. R. W. YATES

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	79.934	79.251
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	2.237	2.252
TOTAL OTHER	16.347	17.000
TOTAL ANNUAL LAB	98.518	98.503
TOTAL INHOUSE	93.002	92.296
TOTAL INHOUSE RDT&E	74.418	73.044
ANNUAL OPERATING COST	0.000	0.000

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	925	0	40	885
CIVILIAN	1044	0	86	958
TOTAL	1969	0	126	1843

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
204	0.000	132.249	780.414	912.663	13.851	748.918

...MISSION

DOD MAJ TEST FAC. PERFORMS T&E ON MIL SYS, SUBSYS, AND COMP. OPER & MAIN  
ASGN TEST SUP ACFT AND ANCIL EQUIP. MANAGES A CENTRAL FAC FOR MAJ MOD OF  
AFSC ACFT. OPER SHOP FAC IN SUP OF CMD ACFT CLASS II MODS AND AFWAL R&D  
PROGMS. PROVIDES FLT TST ENGRG. TECH DATA ACQ. AND TECH PHOTO SVCS.

...CURRENT IMPORTANT PROGRAMS

TRIDENT  
SUPPORT TO AIR LAUNCH CRUISE MISSILE (ALCM)  
AIRBORNE LASER LABORATORY  
JOINT TACTICAL IDENTIFICATION SYSTEM (JTIDS)  
SATELLITE COMMUNICATION (SATCOM).

...FUNCTIONS/EQUIPMENT/CAPABILITIES

41 TEST SUPPORT AIRCRAFT (7 ARIA FC-135) PROVIDE GLOBAL SUPPORT  
ALL AFSC MAJOR CLASS II AIRCRAFT MODIFICATIONS  
MISSILE LAUNCH/REENTRY TRACKING AND DATA RELAY  
1400 SQUARE MILE RESTRICTED TEST AREA IN OHIO  
FLIGHT TEST ENGINEERING (AERO-MECH, AVIONICS, ANALYSIS, INSTRUMENTATION)  
TEST DATA ACQUISITION/PROCESSING/ANALYSIS  
3 OPERATIONAL SQS (FLIGHT CREWS), 3 MAINTENANCE SQS, AND 2 DETACHMENTS  
SPECIALIZED FABRICATION AND MODELING EQUIPMENT  
COMPUTER AIDED DESIGN/MANUFACTURING (CAD/CAM) CAPABILITY  
TECHNICAL PHOTOGRAPHIC INSTRUMENTATION & PROCESSING.

CDR. COL. LAURENCE J. THOMSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	25.061	25.672
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	7.500	6.005
TOTAL OTHER	7.833	8.357
TOTAL ANNUAL LAB	40.394	40.034
TOTAL INHOUSE	20.827	23.906
TOTAL INHOUSE RDT&E	14.194	15.549
ANNUAL OPERATING COST	0.487	0.466

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	324	1	103	221
CIVILIAN	278	4	100	178
TOTAL	602	5	203	399

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
6602	386.000	12.000	165.000	563.000	103.657	41.700

...MISSION

DOD FOCAL POINT FOR FLIGHT, LAB & SLED T&E OF INERTIAL GUIDANCE SYSTEMS & COMPONENTS. HIGH SPEED TRACK FOR AERODYNAMIC, EJECTION, IMPACT, RAINFIELD, GUIDANCE & BLAST INTERACTION. RADAR CROSS SECTION & ANTENNA PATTERNS OF A/C, SPACECRAFT RVS. A/C SUPPORT FOR INHOUSE & TRANSIENT RQMTS

...CURRENT IMPORTANT PROGRAMS

MX MISSILE GUIDANCE SYSTEM AND COMPONENTS TESTING  
A/C NAVIGATION SYSTEM VERIFICATION TESTING, PROJECT 688G  
B-52 INTEGRATED WEAPONS SYSTEM TESTING  
ADVANCED GUIDANCE TECHNOLOGY TESTING IN SUPPORT OF ABRES  
ACES II R2D.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

1-260IN/2-100IN PRECISION CENTRIFUGES, PRECISION GRND/ABN TEST FACILITY  
PRECISION REFERENCE/DATA COLLECTION, ENVIRONMENTAL CHAMBERS/INERTIAL  
NAV TEST VAN, 50,799 FT TEST TRACK, 2 RAIL/158200 FT 3 RAIL. 5 BLOCK-  
HOUSES, 2 INTRMN STATIONS, 9000 FT TRACKSIDE, 2000 FT BALL RAINFIELD,  
ROCKET SLED/PROPULSION SYST INV, RADAR SCATTER FAC, 30 MHZ TO 90 GHZ,  
MEASURE MONOSTATIC/BISTATIC AMP, PHASE, DOPPLER, GLINT, JET ENGINE  
MODULATION, MODEL MAKING.



CDR. COL. BOBBY R. ADCOCK

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

PROGRAM	1982 (ACTUAL)	1983 (ACT + EST)
TOTAL RDT&E	10.598	11.475
TOTAL PROCUREMENT	0.000	0.000
TOTAL O&M	0.000	0.000
TOTAL OTHER	2.890	3.280
TOTAL ANNUAL LAB	13.488	14.755
TOTAL INHOUSE	13.488	14.755
TOTAL INHOUSE RDT&E	10.598	11.475
ANNUAL OPERATING COST	2.680	2.850

PERSONNEL DATA (END OF FY 1982)

PERSONNEL	AUTHORIZED STRENGTH	TOTAL PHDS	TOTAL PROF	NON- PROF
MILITARY	91	21	50	41
CIVILIAN	131	17	50	81
TOTAL	222	38	100	122

SPACE AND PROPERTY

ACRES	SPACE (THOUSANDS OF SQUARE FEET)				COST (MILLION \$)	
	LAB	ADMIN	OTHER	TOTAL	REAL PROP	EQUIP
10	26.523	16.047	56.540	99.110	13.415	15.193

...MISSION

THE MISSION OF AFRRRI SHALL BE TO CONDUCT RESEARCH IN THE FIELD OF RADIOBIOLOGY AND RELATED MATTERS ESSENTIAL TO THE OPERATIONAL AND MEDICAL SUPPORT OF THE DEPARTMENT OF DEFENSE AND THE MILITARY SERVICES

...CURRENT IMPORTANT PROGRAMS

DEFINE PHYSIOLOGICAL/PATHOLOGICAL RESPONSE IN HUMANS TO RADIATION.  
ASSESS EFFECTS OF COMBINED INJURIES, MILITARY FORCES/NONCOMBATANTS.  
DATA FOR PREDICTION OF COMBAT INEFFECTIVENESS AND CASUALTY PRODUCTION.  
TREATMENT METHODS FOR CASUALTIES FROM RADIATION/COMBINED INJURY.  
INSTRUCTION TO ARMED SERVICES ON TREATMENT OF NUCLEAR CASUALTIES.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FUNCTIONS: OPERATE FACILITIES FOR CONDUCTING RADIOBIOLOGY RESEARCH AND DISSEMINATING RESULTS: CONDUCT ADVANCED TRAINING: PROVIDE ANALYSIS CONSULTATION ON BIEFFECTS OF RADIATION AND PERFORM OTHER SUCH RESEARCH FUNCTIONS AS REQUIRED. MAJOR EQUIPMENT INCLUDED: PULSE AND STEADY STATE NUCLEAR REACTOR, 200,00-CURIE COBALT-60 IRRADIATOR, ELECTRON LINEAR ACCELERATOR, X-RAY AND THERATRON EXPOSURE CAPABILITY SUPPORT SERVICES INCLUDE: MEASUREMENT OF RADIATION FIELDS, PROVISION AND CARE OF LABORATORY ANIMALS, EQUIPMENT DESIGN AND FABRICATION ASSISTANCE, REAL-TIME DATA ACQUISITION SYSTEM, TELEVISION AND FILM DOCUMENTATION OF EXPERIMENTS, PERSONNEL AND ENVIRONMENTAL MONITORING, EDITORIAL ASSISTANCE IN REPORT PREPARATION, AND A LARGE TECHNICAL LIBRARY

APPENDIX I

DISESTABLISHMENT, ESTABLISHMENT OR CHANGES IN ORGANIZATION OR NAME\*

DEPARTMENT OF THE ARMY

NONE

DEPARTMENT OF THE NAVY

NONE

DEPARTMENT OF THE AIR FORCE

NONE

\* Changes since publication of Department of Defense In-house RDTE Activities,  
30 October 1981.

## APPENDIX II

### DEFINITIONS

1. **IN-HOUSE RDTE ACTIVITIES**--Those organizational entities engaged in performing work in any or all of the categories of research, development, test, and evaluation. The RDTE effort, however, should represent a minimum of 25 percent of the total effort of each entity reporting in order to be considered as an RDTE activity.

2. **PROFESSIONALS**--Full-time government scientific and engineering personnel actively engaged in RDTE activities. In the case of civilians this will include all those holding positions that fall into the following categories under the Civil Service Occupational Groups and Series of Classes, General Schedule:

101 Social Science	660 Pharmacist
150 Geography	662 Optometrist
180 Psychology	665 Speech Pathology and Audiology
184 Sociology	668 Podiatrist
190 General Anthropology	680 Dental Officer
193 Archeology	690 Industrial Hygiene
401 Biology	695 Food and Drug Officer
403 Microbiology	696 Consumer Safety
405 Pharmacology	701 Veterinary Medical Science
408 Ecology	801 General Engineering
410 Zoology	803 Safety Engineering
413 Physiology	804 Fire Prevention Engineering
414 Entomology	806 Materials Engineering
430 Botany	807 Landscape Architecture
434 Plant Pathology	808 Architecture
435 Plant Physiology	810 Civil Engineering
436 Plant Protection and Quarantine	819 Sanitary Engineering
437 Horticulture	830 Mechanical Engineering
440 Genetics	840 Nuclear Engineering
454 Range Conservation	850 Electrical Engineering
457 Soil Conservation	855 Electronic Engineering
460 Forestry	858 Biomedical Engineering
470 Soil Science	861 Aeronautics Engineering
471 Agronomy	871 Naval Architecture
480 General Fish & Wildlife	880 Mining Engineering
482 Fishery Biology	881 Petroleum Engineer
486 Wildlife Biology	890 Agriculture Engineering
487 Animal Science	892 Ceramic Engineering
493 Home Economics	893 Chemical Engineering
601 General Health	894 Welding Engineering
602 Medical Officer	896 Industrial Engineering
	1221 Patent Adviser
	1222 Patent Attorney
	1223 Patent Classifying
	1224 Patent Examining
	1225 Patent Interference Examining

1226	Design Patent Examining	1370	Cartography
1301	General Physical Science	1372	Geodesy
1306	Health Physics	1380	Forest Products Technology
1310	Physics	1382	Food Technology
1313	Geophysics	1384	Textile Technology
1315	Hydrology	1386	Photographic Technology
1320	Chemistry	1510	Actuary
1321	Metallurgy	1515	Operations Research
1330	Astronomy and Space Science	1520	Mathematics
1340	Meteorology	1529	Mathematical Statistician
1350	Geology	1530	Statistician
1360	Oceanography	1540	Cryptography
		1550	Computer Sciences

Military professionals, both officer and enlisted, actively engaged in RDTE activities could be identified with the functions described in the above referenced civilian job series. Lawyers, accountants, chaplains, social workers, and educators should be excluded.

3. **TECHNICIANS**--Generally nonprofessionals working on an RDTE project or program in support of a professional. In the case of civilians, it will include, but will not necessarily be limited to, those holding positions that fall into the following categories of the Civil Service Occupational Groups and Series of Classes, General Schedule:

102	Social Science Technician	681	Dental Assistant
181	Psychological Technician	682	Dental Hygienist
404	Biological Technician	683	Dental Laboratory Technician
421	Plant Protection Technician	684	Public Health Dental Hygienist
455	Range Technician	685	Public Health Program Specialist
458	Soil Conservation Technician	688	Sanitarian
462	Forestry Technician	698	Environmental Health Technician
603	Physician Assistant	699	Health Technician
621	Nurse Assistant	704	Animal Health Technician
622	Medical Supply Aid	802	Engineering Technician
625	Autopsy Attendant	817	Surveying Technician
636	Rehabilitation Therapy Asst	818	Engineering Drafting
642	Nuclear Medicine Technician	856	Electronics Technician
644	Medical Technologist	895	Industrial Engineering Technician
645	Medical Technician	1202	Patent Technician
646	Pathology Technician	1311	Physical Science Technician
647	Medical Radiology Technician	1316	Hydrologic Technician
648	Therapeutic Radiological Technologist	1341	Meteorological Technician
649	Medical Machine Technician	1371	Cartographic Aid
650	Medical Technical Assistant	1374	Geodetic Technician
661	Pharmacy Technician	1521	Mathematic Technician
664	Restoration Technician	1531	Statistical Clerical & Administrative
667	Orthotist and Prosthetist	1541	Cryptanalysis
669	Medical Record Librarian		

Discretion will have to be exercised by each RDTE activity in determining the number of military technicians. Generally, they should follow the guidelines established in defining civilian technicians and can be identified in DOD 1312.1-E.

4. REAL PROPERTY COST--Each reporting activity will be responsible for determining and reporting the cost of real property. This cost should be established in accordance with the guidelines and definitions in DOD Instruction 4165.14. This should also include the cost of installed equipment.

5. EQUIPMENT COST--Each reporting activity will be responsible for determining and reporting the cost of personal property. This cost should be established in accordance with the guidelines and definitions in DOD Instruction 4165.14. This should also include the cost of installed equipment.

6. SPACE--The data to be furnished should include only walled and roofed building space. It should not include such things as parking lots, open storage areas, lean-tos, etc. The source of data may be the annual report submitted in compliance with the requirements of DOD Instruction 4165.14.

7. IN-HOUSE OBLIGATIONS--Obligations reported under this category are for activities performed, or to be performed, by the organizational entity. Their work is carried on directly by their own personnel. Particular care should be taken to include under in-house performance the cost of supplies and equipment essentially of an off-the-shelf nature that are procured for use in in-house research and development, plus such things as travel, publications, and other types of services in support of in-house functions and M.P.A. Excluded from the in-house total are expenses for planning and administering programs by DOD personnel of contracts and grants for out-of-house work and M.C.A.

8. OUT-OF-HOUSE OBLIGATIONS--Obligations reported under this category are for activities performed, or to be performed, by other than the organizational entity. Out-of-house performers may include other departmental or DOD organizational entities, industrial firms, educational institutions, not-for-profit institutions, and private individuals. Included as out-of-house work are all expenses paid the out-of-house performers, as well as the expenses incurred in planning and administering these programs by personnel of the organizational entity. This would also include travel and other supporting services.

9. ANNUAL OPERATING COST--This should generally reflect the overhead cost of operating the laboratory or facility. It should include such things as costs of utilities, rents, janitorial services, guard and fire protection, support services such as supply personnel, printing, maintenance of buildings and grounds, etc. It should not include the salaries of direct labor personnel such as scientists, engineers, technicians, draftsmen, machinists, etc.

### APPENDIX III

#### Selected Standard Abbreviations and Acronyms

AAM -- air-to-air missile	GCA -- ground-controlled approach
AAW -- antiair warfare	
ADPE -- automatic data-processing equipment	HF--high-frequency
AEDC -- Arnold Engineering Development Center	IFF -- identification, friend or foe
AFSC -- Air Force Systems Command	IR -- infrared
AFWET -- Air Force weapons effectiveness testing	MPT -- military potential test
APG -- Aberdeen Proving Ground	NAF -- Naval Air Facility
ARPA -- Advanced Research Projects Agency	NASA -- National Aeronautics and Space Administration
ASW -- antisubmarine warfare	NASC -- Naval Air Systems Command
AUS -- Army United States	NAVORD -- Naval Ordnance Systems Command
	NAVSHIP -- Naval Ship Systems Command
	NEMP -- nuclear electromagnetic propagation
BIS -- Board of Inspection and Survey	PI -- product improvement
BW -- biological warfare	POL -- petroleum oil, lubricants
CBR -- chemical, biological radiological	QA -- quality assurance
CE -- Chief of Engineers, Army	QMDO -- qualitative materiel development objective
CG -- commanding general	QMR -- qualitative materiel requirement
CNO -- Chief of Naval Operations	
COMEL -- communications electronics	RDTE -- Research, development, test and evaluation
	RF -- radio frequency
	RV -- reentry vehicle
DA -- Department of the Army	
DARCOM -- Department of the Army Materiel, Development, and Readiness Command	SATS -- short airfield tactical support
DASA -- Defense Atomic Support Agency	SDR -- small development requirement
DOD -- Department of Defense	SI -- ship installation
DZ -- drop zone	SP -- self-propelled
	ST -- service test
ECM -- electronic countermeasures	T&E -- test and evaluation
ED -- engineering development	
EDT -- engineering development & test	UDT -- underwater demolition team
EEG -- electroencephalogram	ULMS -- Undersea Long-Range Missile System
EKG -- electrocardiogram	USATECOM -- US Army Test and Evaluation Command
ELINT -- electronic intelligence	UTTAS -- utility tactical transport aircraft system
EMP -- electromagnetic propagation	USW -- undersea warfare
EMW -- electromagnetic warfare	UV -- ultraviolet
EODC -- Explosive Ordnance Disposal Center	
ET -- engineering artillery	V/STOL -- vertical/short takeoff and landing
FA -- field artillery	
FEM -- fleet ballistic missile	

**APPENDIX IV**  
**KEY WORD OR ACTIVITY**

	<b><u>PAGE</u></b>
<b><u>AIR MOBILITY:</u></b>	
AVIATION R&T LABORATORIES .....	10
<b><u>AIR TO AIR MISSILES:</u></b>	
ORDNANCE MISSILE TEST FACILITY (NAVY) .....	77
PACIFIC MISSILE TEST CENTER .....	78
WEAPONS CENTER .....	85
<b><u>AIRCRAFT:</u></b>	
AIR DEVELOPMENT CENTER .....	57
AVIATION BOARD .....	7
AVIATION ENGINEERING FLIGHT ACTIVITY .....	9
AVIATION R&T LABORATORIES .....	10
AVIATION R&D ACTIVITY .....	11
FLIGHT DYNAMICS LABORATORY .....	94
FLIGHT TEST CENTER .....	95
<b><u>AIRCRAFT ENGINES:</u></b>	
AERO PROPULSION LABORATORY .....	87
AIR PROPULSION CENTER .....	58
ARNOLD ENGINEERING DEVELOPMENT CENTER .....	91
<b><u>AMMUNITION:</u></b>	
ARMAMENT DIVISION .....	89
ARMOR AND ENGINEER BOARD .....	4
BALLISTIC RESEARCH LABORATORY .....	12
EXPLOSIVE ORDNANCE DISPOSAL FACILITY .....	70
FIRE CONTROL & SMALL CALIBER WEAPON SYSTEMS LABORATORY .....	27
LARGE CALIBER WEAPONS SYSTEMS LABORATORY .....	35
MATERIEL TESTING DIRECTORATE, APG .....	39

**APPENDIX IV**  
**KEY WORD OR ACTIVITY**

	<b><u>PAGE</u></b>
<b><u>AMPHIBIOUS OPERATIONS:</u></b>	
COASTAL SYSTEMS CENTER .....	65
DAVID W. TAYLOR SHIP R&D CENTER .....	66
<b><u>ANTIAIRCRAFT DEFENSE SYSTEMS:</u></b>	
AIR DEFENSE BOARD .....	2
ORDNANCE MISSILE TEST FACILITY .....	77
SURFACE WEAPONS CENTER .....	82
<b><u>ANTIMISSILE DEFENSE SYSTEMS:</u></b>	
EASTERN SPACE AND MISSILE CENTER .....	92
KWAJALEIN MISSILE RANGE .....	34
WESTERN SPACE AND MISSILE CENTER .....	106
<b><u>ANTISUBMARINE WARFARE:</u></b>	
AIR DEVELOPMENT CENTER (NAVY) .....	57
OCEAN SYSTEMS CENTER .....	75
RESEARCH LABORATORY (NAVY) .....	80
UNDERSEA RANGES DEPARTMENT .....	82
UNDERWATER SYSTEMS CENTER .....	84
<b><u>ARCHITECTURAL:</u></b>	
CONSTRUCTION ENGINEERING RESEARCH LABORATORY .....	19
<b><u>ARCTIC ENVIRONMENTAL TESTING:</u></b>	
COLD REGIONS R&E LABORATORY .....	14
COLD REGIONS TEST CENTER .....	15



APPENDIX IV  
KEY WORD OR ACTIVITY

PAGE

ARTILLERY AND GUNS:

COLD REGIONS TEST CENTER .....	15
FIELD ARTILLERY BOARD .....	26
FIRE CONTROL & SMALL CALIBER WEAPONS SYSTEMS LABORATORY .....	27
LARGE CALIBER WEAPONS SYSTEMS LABORATORY .....	35
MATERIEL TESTING DIRECTORATE, APG .....	39

ATOMIC PROPERTIES:

ARMOR AND ENGINEER BOARD .....	4
BALLISTIC RESEARCH LABORATORY .....	12
INSTITUTE OF DENTAL RESEARCH .....	31
WEAPONS EVALUATION FACILITY .....	86

AUTOMOTIVE VEHICLES:

MATERIEL TESTING DIRECTORATE APG .....	39
TANK-AUTOMOTIVE COMMAND LABORATORIES .....	51
YUMA PROVING GROUND .....	55

AVIONICS:

AVIONICS LABORATORY (AIR FORCE) .....	91
AVIONICS R&D ACTIVITY (ARMY) .....	11
BALLISTIC RESEARCH LABORATORY .....	12

BASIC RESEARCH

ARMY RESEARCH OFFICE .....	5
OFFICE OF NAVAL RESEARCH .....	76
OFFICE OF SCIENTIFIC RESEARCH .....	101

BIOLOGICAL WARFARE:

CHEMICAL SYSTEMS LABORATORY .....	13
DUGWAY PROVING GROUND .....	20
SCHOOL OF AEROSPACE MEDICINE .....	103

APPENDIX IV  
KEY WORD OR ACTIVITY

	<u>PAGE</u>
<u>BLOOD:</u>	
WALTER REED ARMY INSTITUTE OF RESEARCH .....	57
<u>BURN: (INJURIES)</u>	
INSTITUTE OF SURGICAL RESEARCH .....	32
<u>CAMOUFLAGE:</u>	
MOBILITY EQUIPMENT R&D COMMAND .....	45
<u>CHEMICAL WARFARE:</u>	
CHEMICAL SYSTEMS LABORATORY .....	13
DUGWAY PROVING GROUND .....	20
<u>CLOTHING:</u>	
AIR DEVELOPMENT CENTER .....	57
CLOTHING AND TEXTILE RESEARCH FACILITY .....	64
NATICK R&D LABORATORIES .....	46
<u>COASTAL REGIONS:</u>	
COASTAL SYSTEMS CENTER .....	65
<u>COLD REGIONS:</u>	
COLD REGIONS R&E LABORATORY .....	14
COLD REGIONS TEST CENTER .....	15
<u>COMBAT SURVEILLANCE:</u>	
COMBAT SURVEILLANCE & TARGET ACQUISITION LABORATORY .....	16

## APPENDIX IV

### KEY WORD OR ACTIVITY

### PAGE

#### COMMUNICATIONS AND RADIO SYSTEMS:

AVIONICS R&D ACTIVITY (ARMY) .....	11
COMMUNICATIONS-ELECTRONICS R&D CENTER .....	18
COMMUNICATIONS-ELECTRONICS BOARD .....	17
RESEARCH LABORATORY (NAVY) .....	80

#### CONSTRUCTION AND STRUCTURAL ENGINEERING:

CIVIL ENGINEERING LABORATORY .....	63
CONSTRUCTION ENGINEERING RESEARCH LABORATORY .....	19
ENGINEERING WATERWAYS EXPERIMENT STATION .....	25

#### COST ANALYSIS:

MATERIEL SYSTEMS ANALYSIS ACTIVITY .....	38
--	----

#### CRYOGENICS:

LARGE CALIBER WEAPONS SYSTEMS .....	35
-------------------------------------	----

#### DATA PROCESSING:

ATMOSPHERIC SCIENCES LABORATORY .....	6
COMMUNICATIONS-ELECTRONICS R&D CENTER .....	18
CONSTRUCTION ENGINEERING RESEARCH LABORATORY .....	19

#### DENTISTRY:

DENTAL RESEARCH INSTITUTE NTC .....	67
INSTITUTE OF DENTAL RESEARCH .....	31
MEDICAL RESEARCH INSTITUTE .....	71

#### EARTH SCIENCES:

ENGINEERING WATERWAYS EXPERIMENT STATION .....	25
--	----

## APPENDIX IV

### KEY WORD OR ACTIVITY

#### PAGE

#### ELECTRONIC WARFARE:

ARNOLD ENGINEERING DEVELOPMENT CENTER .....	91
ELECTRONIC PROVING GROUND .....	21
ELECTRONIC WARFARE LABORATORY .....	22
ELECTRONICS DEVICES AND TECHNOLOGY LABORATORY .....	23
FRANK J. SEILER RESEARCH LABORATORY .....	98
ROME AIR DEVELOPMENT CENTER .....	103

#### ENVIRONMENT:

COLD REGIONS R&E LABORATORY .....	14
COLD REGIONS TEST CENTER .....	15
CONSTRUCTION ENGINEERING RESEARCH LABORATORY .....	19
DUGWAY PROVING GROUND .....	20
MATERIEL TESTING DIRECTORATE .....	39
MEDICAL BIOENGINEERING RESEARCH & DEVELOPMENT LABORATORY .....	40
RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE .....	49
TROPIC TEST CENTER .....	52

#### EQUIPMENT: GENERAL

MOBILITY EQUIPMENT R&D COMMAND .....	45
--------------------------------------	----

#### ESCAPE SYSTEMS:

FLIGHT TEST CENTER .....	96
--------------------------	----

#### FIRE CONTROL SYSTEMS:

ARMAMENT DIVISION .....	90
FIRE CONTROL & SMALL CALIBER WEAPONS SYSTEMS LABORATORY .....	27
WEAPONS CENTER .....	85

#### FOOD PRESERVATION:

NATICK R&D LABORATORIES .....	46
-------------------------------	----

## APPENDIX IV

### KEY WORD OR ACTIVITY

### PAGE

#### FUELS AND LUBRICANTS:

AERO PROPULSION LABORATORY .....	87
AIR DEVELOPMENT CENTER .....	57
HARRY DIAMOND LABORATORIES .....	28
MOBILITY EQUIPMENT R&D COMMAND .....	45

#### FUZES:

HARRY DIAMOND LABORATORIES .....	28
LARGE CALIBER WEAPONS SYSTEMS LABORATORY .....	35

#### GUIDED MISSILES:

ARMAMENT DIVISION .....	90
BALLISTIC RESEARCH LABORATORY .....	12
EASTERN SPACE AND MISSILE TEST CENTER .....	94
FIELD ARTILLERY BOARD .....	26
INFANTRY BOARD .....	30
KWAJALEIN MISSILE RANGE .....	34
MISSILE RESEARCH & DEVELOPMENT COMMAND .....	44
ORDNANCE MISSILE TEST FACILITY .....	77
WESTERN SPACE AND MISSILES TEST CENTER .....	106
WHITE SANDS MISSILE RANGE .....	54

#### HUMAN FACTORS ENGINEERING:

AEROMEDICAL RESEARCH LABORATORY .....	1
AEROSPACE MEDICAL RESEARCH LABORATORY (NAVY) .....	56
HUMAN ENGINEERING LABORATORY .....	29
HUMAN RESOURCES LABORATORY .....	99
SCHOOL OF AEROSPACE MEDICINE .....	104

#### HYDROFOIL:

DAVID W. TAYLOR SHIP R&D CENTER .....	66
ENGINEER WATERWAYS EXPERIMENT STATION .....	25

## APPENDIX IV

### KEY WORD OR ACTIVITY

### PAGE

#### INFECTIOUS DISEASES:

MEDICAL RESEARCH UNIT NO. 2 (PHILIPPINES) .....	72
MEDICAL RESEARCH UNIT NO. 3 (EGYPT) .....	73
WALTER REED ARMY INSTITUTE OF RESEARCH .....	53

#### INSECTS:

BIOSCIENCES LABORATORY .....	62
LETTERMAN ARMY INSTITUTE OF RESEARCH .....	36
MEDICAL BIOENGINEERING R&D LABORATORY .....	40

#### JET ENGINES:

AERO PROPULSION LABORATORY .....	87
AIR PROPULSION CENTER .....	58
ARNOLD ENGINEERING DEVELOPMENT CENTER .....	91

#### LANDING AIDS:

AVIONICS R&D ACTIVITY (ARMY) .....	11
AVIONICS LABORATORY (AIR FORCE) .....	92
FLIGHT TEST CENTER .....	96

#### LASERS:

AERO PROPULSION LABORATORY .....	87
AVIONICS LABORATORY (AIR FORCE) .....	92
AVIONICS R&D ACTIVITY (ARMY) .....	11
COMBAT SURVEILLANCE & TARGET ACQUISITION LABORATORY .....	16
INSTITUTE OF DENTAL RESEARCH .....	31
LETTERMAN ARMY INSTITUTE OF RESEARCH .....	36
MISSILE COMMAND .....	44
RESEARCH LABORATORY (NAVY) .....	80
SURFACE WEAPONS CENTER .....	82

#### MAPPING:

ENGINEERING TOPOGRAPHIC LABORATORIES .....	24
--	----

## APPENDIX IV

### KEY WORD OR ACTIVITY

### PAGE

#### MATERIALS:

BALLISTIC RESEARCH LABORATORY .....	12
MATERIALS LABORATORY .....	10
MATERIALS AND MECHANICS RESEARCH CENTER .....	37

#### MEDICAL RESEARCH:

AEROMEDICAL RESEARCH LABORATORY .....	1
ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE .....	109
BIOSCIENCES LABORATORY .....	62
INSTITUTE OF DENTAL RESEARCH .....	31
INSTITUTE OF SURGICAL RESEARCH .....	32
LETTERMAN ARMY INSTITUTE OF RESEARCH .....	36
MEDICAL BIOENGINEERING R&D LABORATORY .....	40
MEDICAL RESEARCH INSTITUTE (NAVY) .....	71
MEDICAL RESEARCH INSTITUTE OF CHEMICAL DEFENSE .....	42
MEDICAL RESEARCH UNIT, NO. 2 (PHILIPPINES) .....	72
MEDICAL RESEARCH UNIT, NO. 3 (EGYPT) .....	73
RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE .....	49
SCHOOL OF AEROSPACE MEDICINE .....	104
SUBMARINE MEDICAL RESEARCH LABORATORY .....	81
WALTER REED ARMY INSTITUTE OF RESEARCH .....	53

#### METEOROLOGY:

ATMOSPHERIC SCIENCES LABORATORY .....	6
COLD REGIONS TEST CENTER .....	15
ENVIRONMENTAL PREDICTION RESEARCH FACILITY .....	68
FIELD ARTILLERY BOARD .....	26

#### MINES:

COASTAL SYSTEMS CENTER .....	65
------------------------------	----

#### NAVAL ARCHITECTURE:

DAVID W. TAYLOR SHIP R&D CENTER .....	66
---------------------------------------	----

#### NIGHT VISION:

NIGHT VISION AND ELECTRO-OPTICS LABORATORY .....	47
--	----

## APPENDIX IV

### KEY WORD OR ACTIVITY

#### PAGE

#### NUTRITION:

LETTERMAN ARMY INSTITUTE OF RESEARCH .....	36
NATICK R&D LABORATORIES .....	46

#### OCEANOGRAPHY:

CIVIL ENGINEERING LABORATORY .....	63
ENVIRONMENTAL PREDICTION RESEARCH FACILITY .....	68
OCEAN RESEARCH & DEVELOPMENT ACTIVITY .....	74

#### OPTICS:

ENGINEER TOPOGRAPHIC LABORATORIES .....	24
NIGHT VISION & ELECTO-OPTICS LABORATORY .....	47

#### PHYSICAL PROPERTIES:

FRANK J. SEILER RESEARCH LABORATORY .....	97
MATERIALS AND MECHANICS RESEARCH CENTER .....	37

#### PHYSICAL SCIENCES:

BALLISTIC RESEARCH LABORATORY .....	12
FRANK J. SEILER RESEARCH LABORATORY .....	97
GEOPHYSICS LABORATORY .....	98

#### PSYCHOLOGY:

HEALTH RESEARCH CENTER .....	70
LETTERMAN ARMY INSTITUTE OF RESEARCH .....	36
PERSONNEL RESEARCH & DEVELOPMENT CENTER .....	79
RESEARCH INSTITUTE FOR BEHAVIORAL & SOCIAL SCIENCES .....	48
WALTER REED ARMY INSTITUTE OF RESEARCH .....	53



APPENDIX IV  
KEY WORD OR ACTIVITY

	<u>PAGE</u>
<u>RADAR</u>	
AVIONICS LABORATORY (AIR FORCE) .....	92
AVIONICS RAD ACTIVITY (ARMY) .....	11
COMBAT SURVEILLANCE & TARGET ACQUISITION LABORATORY .....	16
HARRY DIAMOND LABORATORIES .....	28
RESEARCH LABORATORY (NAVY) .....	80
ROME AIR DEVELOPMENT CENTER .....	103
<u>RADIOBIOLOGY:</u>	
ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE .....	109
<u>ROCKET PROPULSION:</u>	
ROCKET PROPULSION LABORATORY .....	102
<u>SATELLITES:</u>	
FLIGHT DYNAMICS LABORATORY .....	95
ORDNANCE MISSILE TEST FACILITY (NAVY) .....	77
RESEARCH LABORATORY (NAVY) .....	80
<u>SOCIAL SCIENCES:</u>	
PERSONNEL RESEARCH AND DEVELOPMENT CENTER .....	79
RESEARCH INSTITUTE FOR BEHAVIORAL AND SOCIAL SCIENCES .....	48
<u>SYSTEM ANALYSIS:</u>	
MATERIEL SYSTEMS ANALYSIS ACTIVITY .....	38
<u>TARGET ACQUISITION:</u>	
AEROSPACE MEDICAL RESEARCH LABORATORY .....	88
COMBAT SURVEILLANCE & TARGET ACQUISITION LABORATORY .....	16
HARRY DIAMOND LABORATORIES .....	28

APPENDIX IV  
KEY WORD OR ACTIVITY

	<u>PAGE</u>
<u>TOPOGRAPHY:</u>	
ENGINEER TOPOGRAPHIC LABORATORIES .....	24
<u>TORPEDOES:</u>	
SURFACE WEAPONS CENTER .....	82
UNDERSEA RANGES DEPARTMENT .....	83
<u>TROPICAL REGIONS:</u>	
TROPICAL TEST CENTER .....	52
<u>WARHEADS:</u>	
ARMAMENT DIVISION .....	90
BALLISTIC RESEARCH LABORATORY .....	12
FIELD ARTILLERY BOARD .....	26
WEAPONS CENTER .....	85
<u>WEAPONS SYSTEMS:</u>	
AIR DEFENSE BOARD .....	2
AIR DEVELOPMENT CENTER .....	57
INFANTRY BOARD .....	30
MATERIEL TESTING DIRECTORATE .....	39
UNDERWATER SYSTEMS CENTER .....	84
WEAPONS LABORATORY .....	105